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Technology review

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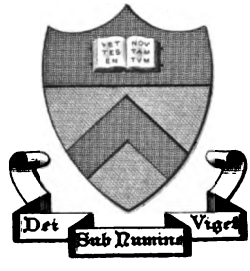

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THE TECHNOLOGY REVIEW

VOLUME XI.

1909

Committee on Publication

JAMES PHINNEY MONROE, '82
WALTER BRADLEE SNOW, '82
ISAAC WHITE LITCHFIELD, '85
ARTHUR AMOS NOYES, '86
WALTER HUMPHREYS, '97

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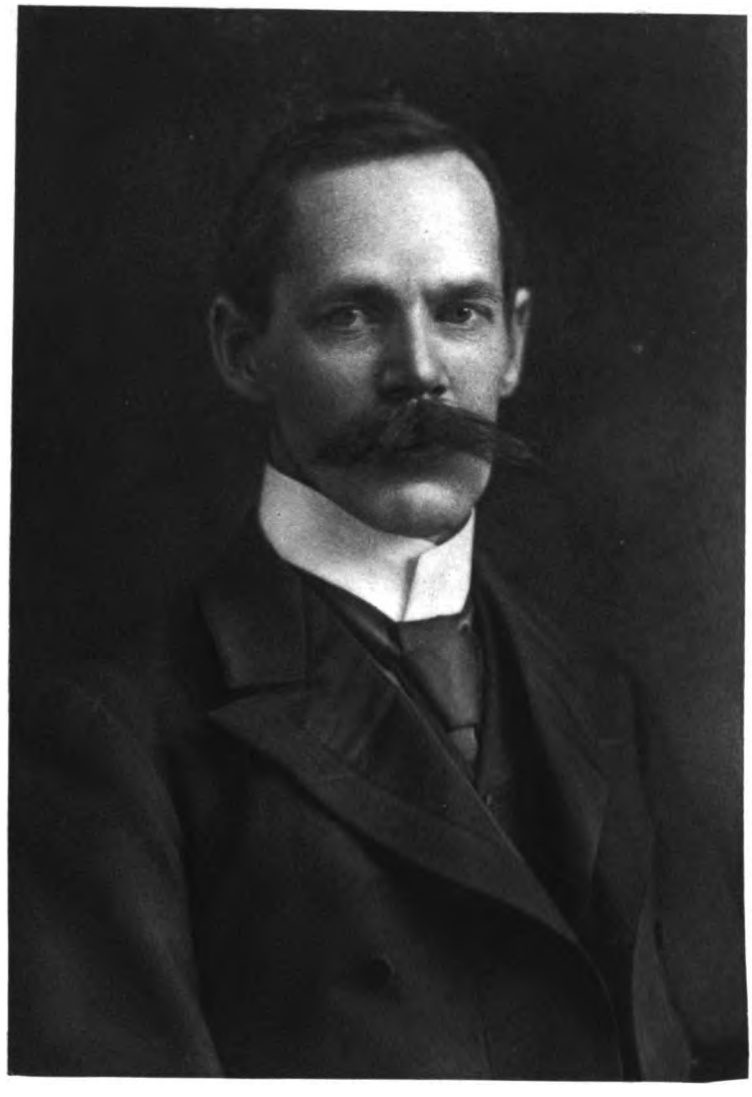

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The Technology Review

Vol. XI JANUARY, [illegible] No. [illegible]

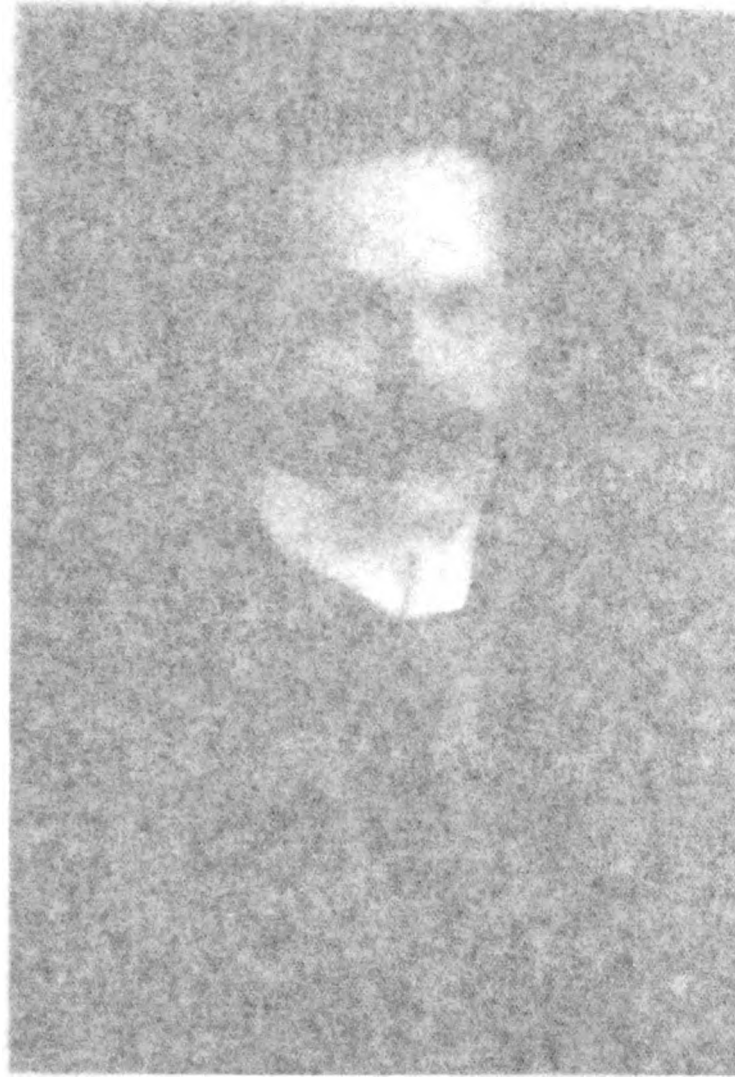
GREETING FROM THE PRESIDENT-ELECT

To the Alumni of the Institute:—

Gentlemen:—I have been so much touched by the [illegible] greetings that you have sent to me from various parts of the Union, that I take the first opportunity of assuring you collectively that I prize your good-will very highly, and will strive to retain it. I know enough of the history of the Institute to realize, in a measure, how much it owes to the support of its alumni and I am pleased with the prospect that there will be no diminution of that support in the future.

I come to the Institute because of my profound conviction of the importance of sound technological training and of the splendid field for service that is thus opened to me. It has so often been my lot to urge the claims of technological education before an apathetic audience that it is a peculiar pleasure to address a body of men that needs no urging in the matter. You have all realized that, in the field of industry, rule-of-thumb has been unhorsed and science placed firmly in the saddle. You know, too, that, in the fierce struggle of today between individuals and nations, that man and that race is doomed that lacks the accurate knowledge which science fosters and the power which such knowledge gives to a mind that is alert.

Knowledge and power have doubtless been watchwords at the Institute throughout its history. I trust that they [illegible] so, and that whoever presides over its [illegible] will see that no effort is spared to make it respected as a place of sound learning and accurate knowledge, and [illegible] the knowledge is imparted under such conditions as



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The Technology Review

VOL. XI. JANUARY, 1909 No. 1

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will develop and not cramp the natural powers of the students.

The Institute has unfolded wonderfully in the past, and I know that you will watch with interest its future growth. I shall do my best to maintain its great traditions and shall enter upon the task strong in the assurance of your loyalty and co-operation. It has much in its favour,—a great reputation for thoroughness and efficiency, a distinguished and energetic faculty, a loyal and enthusiastic body of alumni devoted to its interests and ready to make great sacrifices to further its advancement. You know, however, better than I, that it also labours under certain disadvantages. These we must do our best to remove as speedily as possible, and the problem to which we must devote our energy most strenuously in the immediate future is to obtain a site and buildings that will free the institution from its cramped posture and enable it to develop naturally. I need scarcely assure you that I have far more concern for its inner worth than for its outer show. I do not advocate show, but I believe that such an institution should have a dignified site and buildings and that its inner worth will suffer very seriously if it has not.

The Institute is already a great one, known and respected throughout the world by all that have any interest in technology. We need have no fear for its future greatness; for, whatever be the new conditions under which it works, I feel sure that it will retain something of the old spirit, that spirit of thoroughness, breadth, high-mindedness, and loyalty that makes the brand of a Tech man.

Yours sincerely,

RICHARD C. MACLAURIN.

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OUR NEW PRESIDENT

A Man eminently fitted by Experience and Personal Qualities to direct the Affairs of the Institute

On the 11th of November the Corporation elected Richard C. Maclaurin, M.A., LL.D., Sc.D., to the presidency of the Massachusetts Institute of Technology.

The news that the important question of an executive head for the Institute had been settled was received with rejoicing by the alumni, Faculty, and friends of the school; for it seemed to insure the immediate consideration of those questions which must play such a vital part in the future development of our institution and the retention of its leadership in technological education. With a broad and comprehensive plan that includes the removal to a site not too remote from the present home, where more ample provision can be made for the social and physical well-being of the students, and where the facilities will be more adequate to meet successfully new problems as they arise, no one need fear for the future. This is especially true since the execution of this plan is to be intrusted to a man in the prime of life, who believes in "preserving the traditions of the past and striving along the same general lines for the same great ends," whose enthusiasm and optimism do not allow him to believe that the alumni of the Institute and the people of Massachusetts will permit this school's brilliant achievements to fade through lack of financial support, and whose motto is "a bold policy, a courageous policy of trust in the future."

While we welcome the new leader, we wish, at the same time, to pay tribute to our Acting President, Dr. Noyes, who has guided our Alma Mater with such wisdom and foresight during the last two years. A leader in the field of physical chemistry, he left the quiet of his laboratory for the atmosphere of administration, with its less congenial social and public activities, at the call of the Cor-

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poration, and his unselfish devotion and able administration have won for him the regard and gratitude of all. Unwilling himself to assume the duties of executive office permanently, he has been active in the selection of the new President. It is a source of gratification to all alumni that the Institute will continue to enjoy the benefit of his experience and ripe scholarship.

The Institute has been fortunate in the men who have shaped her policies and administered her affairs in the past, and it is the sincere belief of those who know Dr. Maclaurin that he will prove a worthy successor to the distinguished leaders who have preceded him. A brilliant scholar in two quite distinct branches of learning, mathematical physics and the law, an administrator of experience, a man of broad culture and varied interests extending far beyond the domains of his profession, withal a man of simple and democratic tastes, he brings to the office of President unusual qualifications. The fact that Dr. Maclaurin was born in Scotland, educated in New Zealand and England, and was from 1898 until February last a professor in the University at Wellington, New Zealand, may lead some to assume that he is unfamiliar with our American political and educational institutions. The truth is that Dr. Maclaurin is astonishingly well acquainted with our own universities. He spent nearly a year in the United States and Canada in 1895, in a careful study of our educational methods, and by the time he is inducted into office in Boston he will have held for a year and a half the position of professor of mathematical physics at Columbia University, New York city, in succession to Dr. Woodward, now president of the Carnegie Institution, and, as secretary of the department of physics at Columbia, will have enjoyed unusually close association with that great university.

Besides this knowledge of our own methods, Dr. Maclaurin wil bring to the Institute familiarity with the best practice of other lands. Called to New Zealand as professor of mathematics in the University at Wellington in 1898, he was soon afterwards chosen chairman of the Faculty, an administrative position somewhat analogous to that of president in an American college, and later on was made dean of the Law School. While chairman of the Faculty

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he travelled extensively through the British Empire, France, and Germany, studying the educational systems of those countries, in order to give to the development of higher education in New Zealand and Australia the best that the older civilizations could offer. It was natural for him to give particular attention to the subject of technological education in the countries visited, because, as a mathematician and physicist, he realized the important part that technological education was to play in the industrial and economic development of Australasia.

It will be of interest to those familiar with the traditions of the Institute to know that Dr. Maclaurin is in sympathy with an important principle which has always prevailed with us,—that of granting to the Faculty a large measure of influence in shaping the educational policies of the school. He has recently expressed himself on the subject somewhat as follows: "The Faculty, if properly chosen, must always contain a large number of men whose opinions as to the educational policy of the Institute are most weighty. Many such matters they must understand far more thoroughly than either the President or the Corporation, and it would be the height of folly for the latter not to recognize this and act upon it. I believe that the Faculty ought to be given to understand that it is in a large measure responsible for the educational policy of the Institute. In these days there are so many forces at work tending to draw men away from teaching, especially in the field of technology, that no opportunity must be neglected of adding to the attractiveness and dignity of the profession. One means to that end is to let the Faculty realize that it may play a leading part in shaping the destinies of the Institute."

Dr. Maclaurin is also in hearty sympathy with the Institute's insistence upon an intermingling of the humanistic with the scientific and technical subjects. He is entirely opposed to the overcrowding of the curriculum with a mass of technical subjects that would better be acquired in the school of practice and experience. The sacrifice in the undergraduate courses of the fundamental scientific structure of engineering for the teaching of engineering practice does not meet with his approval. He believes in a training

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that will stimulate the mental and human faculties in a way to develop the power to meet and solve the new problems as they arise in the world of affairs.

In regard to athletics, Dr. Maclaurin takes the sane and moderate view held by most men trained in England. He believes in the importance of a sufficient amount of physical exercise to keep the body in the condition necessary for the most efficient service, and he may be relied upon to foster the rational system of athletics that has been developed within recent years at the Institute.

Dr. Maclaurin has a personality that draws men to him. His simple and unassuming manner carries with it an assurance of sincerity, and his keen sense of humor and the richness and variety of his experience and information lend an unusual charm to his conversation. He makes friends quickly; and, as the acquaintance advances, the largeness of the man becomes more apparent. This power to attract men to him insures cordial and sympathetic relations between the President and the student body, and will in time, without doubt, win for him the affectionate regard of the alumni.

Dr. Maclaurin has been twice honored by the University of Cambridge, England. In 1904 he received the degree of Doctor of Laws in recognition of his achievements in the law and the importance of his legal work on the "Title to Realty." Last summer he received the much-coveted degree of Doctor of Science for his attainments in mathematics and physics. In this connection the following appreciation from J. Larmor, Sc.D., F.R.S., secretary of the Royal Society, an authority pre-eminent in the domain of mathematical physics, may be of interest. Dr. Larmor says, "I am able without hesitation to express my judgment that R. C. Maclaurin is a skilful and profound mathematician, quite of the first rank."

In February, 1908, Dr. Maclaurin published the first volume of a treatise on "Physical Optics." Of this volume the *Philosophical Magazine* says: "There have been so many advanced treatises on Physical Optics in the last few years that it might be thought to be superfluous to produce another. The present volume is, however, of so singular and at the same time of so im-

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portant a character that no excuse is necessary for its birth. . . . The distinctive feature is that a large part of the volume embodies in a modified form the substance of a series of papers of the author published within recent years by the Royal Society. In its thoroughness of treatment of the more recondite cases of interference there is no treatise in the field to compare with it. . . . We recommend this book to every serious student of Physical Optics."

From all the evidence at hand, then, it would seem that the Corporation has been very fortunate in securing the services of so eminent and well-trained a man as Dr. Maclaurin, and we have every reason to anticipate a wise and able administration. In this connection, however, the alumni should bear in mind that no man, be he ever so sagacious and devoted, can be expected to solve single-handed the problems that now confront the Institute. It is earnestly to be hoped, therefore, that the friends of the Institute will show their confidence in the new President, not only by the cordial and enthusiastic welcome they accord him, but also by a hearty co-operation with him in all his endeavors, and especially by a substantial and generous support of his financial policy.

GEORGE V. WENDELL, '92.

A Directory of Non-Graduates

The Alumni Association is now securing information in regard to the former students of the Institute preparatory to the publication of a register of former students, not graduates, which shall be as complete as it is possible to make it. It would be very desirable to have this register include the names of all former students, both graduates and non-graduates, for the influence of the non-graduates has been so strong and so helpful that the degree carries practically no distinction for purposes of the Alumni Association. Your co-operation is earnestly desired in order that the list may be complete. The book will be published as soon as the matter can be properly collected and compiled.

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TEN YEARS OF THE REVIEW

A Summary of Notable Technology Advances since 1898

A college with a reputation to sustain is supposed to be the embodiment of conservatism and to progress only as the family "carryall" does in contrast with a sixty-horse-power car. Yet to read, even runningly, the ten stout volumes of the REVIEW sets one's head whirling with the rapid passing of the educational panorama. To look back one year is to gain an impression that Institute growth is as slow as geological accretion: to look back ten years is to wonder how such earthquakes and volcanoes of change could have happened without our paying heed.

It is true that old Rogers Building still stands majestic, the serene centre of Institute life; that the Walker Building remains its ugly self; that the Garrison street shops and the Gymnasium continue inaccessible; and that Engineering A and Engineering B patiently await christening by some million-dollar donor. But, in addition, there have arisen, during these ten years, the Pierce Building, the Augustus Lowell Laboratories, Engineering C, and the Tech Union, doubling the floor space of the Institute, yet leaving teachers and students still in cruel straits for room.

The decade of the REVIEW's life has not only seen Technology continuing to outgrow its buildings, it has witnessed a revolution in opinion regarding the meeting of that ceaseless need for space. In 1899 the mere rumor that the Institute might move was indignantly denied or was dismissed as an academic question with which this generation need not deal: today the question of the Institute's site is the most pregnant and imperative of immediate problems. From a general belief that the school would best remain where it is to a wide-spread demand that it should take the radical step of removal to a new and ample situation, where its buildings may be planned upon a scale of dignity worthy of the leading school of

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architecture in America, and where it may have room to work out the newest problems of real education, is a long journey to take in one decade.

It is, however, along the intangible paths of ideals, of teaching atmosphere, of undergraduate and graduate spirit, and of effective loyalty, that the Institute has made its greatest advances during the first ten years of the REVIEW. In mere numbers progress has been phenomenal, for more than half of the whole body of alumni have attained that enviable state since 1898; but the main significance lies in the fact that the training of these four thousand young men before leaving the Institute, and their conception of their relations to the school after they go out, is vastly different from what it used to be. Ten years ago what was the Alumni Association? A very loose aggregation of widely scattered persons, a small number of whom paid their dues and a still smaller proportion of whom came together annually to dine and to give rather chilly greeting to the graduating class. There were a few branch associations in strategic centres like Chicago and New York; but not many of their members regarded his organization as responsible for the furthering of Tech.

Today, however, what do we mean when we speak of the alumni of the Institute? We mean a body of 4,129 active members, an equally loyal body of 350 elected associate members, and a third body of 4,166 potential associate members, many of whom already are and most of whom would gladly be active workers for the Institute. We mean, moreover, not simply a perfunctory organization with some local branches: we mean a vitally knit family of men, loving and believing in Technology and what it stands for, a family that has established centres of Technology life in twenty-five sections of the country as well as in Boston itself, that is maintaining a busy alumni office for the conducting of large Institute enterprises, that has taken upon itself the supervision of and a large responsibility for the athletic and social side of undergraduate experience, that has subscribed a hundred thousand dollars for a Walker Memorial which shall be the controlling centre of this student life, that has given an additional unfettered quarter of

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a million towards the immediate support of the school, and that, through the nomination of fifteen of its members to the Corporation, has shown its willingness and its capacity to assume a major share in carrying the heavy burdens of administration. To signalize this new spirit, the body of past students held, in 1904, a Reunion which, in its extent, its genuine fervor, its demonstration that the man who goes to college primarily to work can have as fine and abiding a college spirit as he who goes there mainly to enjoy an "athletic club for gentlemen," astonished Boston and amazed itself.

This new spirit of the alumni, originally kindled at Tech, naturally finds itself again reflected in the Institute. The most marked change, of course, is in those future alumni, the undergraduates. To one whose acquaintance with Institute life stopped ten years ago, it seems almost incredible that the present student may enjoy, if he choose to enter it, an all-round, rational social life so essential to youthful development. Such a life used to be thought impossible without cultural leisure, academic groves, and dormitories, and to be believed incompatible with a spirit of hard work. Since 1898, however, there has grown up, naturally, healthily, and without damage to Institute standards, a college atmosphere at Technology which, blossoming partially at the temporary Tech Union on Garrison street, promises to reach full and satisfactory fruition in the new Tech Union on Trinity Place, a house given to the students by the Technology Fund and by gifts of generous friends. In the management of this Union the undergraduates are being given direct, and, to a large degree, controlling responsibility.

To understand this new undergraduate spirit, one must be in the very midst of it. But significant surface indications are: a rational fraternity life, through which a considerable number of undergraduates find good living, pleasant companionship and an excellent administrative experience, in houses which they occupy in the Institute's vicinity; the increasing patronage of "commons," furnished so excellently by Mrs. King's lunch-room and the old Union, and now expanded into the great dining-room of the new

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Tech Union; the establishing of state, city, or preparatory school clubs which dine together at frequent intervals; the creation of numerous professional societies wherein the men, through their own or others' talk upon technical and non-technical problems, enlarge their outlook upon their future professions; the development of "Junior Week" festivities, which, besides the more frivolous things of youth, bring forward *Technique*, acknowledged to be the best of college annuals, and the "Tech Show," written by the men themselves, and reaching a standard of amateur performance which is very high; and the growth of the *The Tech* into a tri-weekly newspaper of true journalistic flavor and influence.

Athletics, however, is one of the surest gauges of undergraduate sanity; and therein these ten years have seen most commendable gains. They have witnessed the abolishing of the "cane rush," so childish and finally so fatal, and the substitution of "Field Day," when sophomore and freshman come together in a true test of prowess through manly sports. They have seen the making of "Technology Field," with its excellent opportunities for track athletics; the joint management of athletics by alumni and undergraduates; the founding of the Cabot Medals for the greatest individual progress in physical condition; the incalculably useful work of a regularly appointed medical adviser; the employment of an instructor in gymnastics, as well as an athletic trainer; and, finally, the establishing of physical training as a required course for all members of the first-year class. All this has been facilitated by the moving and rebuilding of the gymnasium.

To meet this immense growth in student life and organization,—a development now recognized as an essential part of collegiate education,—the administration of the Institute has, during the short life of the REVIEW, been wholly reorganized. In addition to the President, Secretary, and Treasurer,—officers coexistent with the Institute,—there are now a Dean, whose business it is to know and advise the students; a Registrar and a Recorder, whose duties and interests do not stop at the mere receiving and transmitting of records; a Bursar, whose interpretation of fiduciary responsibility includes a high sense of obligation toward the varied

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needs of students; and (latest to be created) a Publicity Official, who wisely conceives his first duty to be the bringing of Corporation, Faculty, alumni, and undergraduates into closer knowledge of the Institute and of one another.

The administrative officers, however, are not alone in enlarging the opportunities of the undergraduate and therefore the Institute's whole educational field. The members of the Faculty, always brought, through the Institute's methods of teaching, into unusually close relations with their students, have found new ways of utilizing that greatest force in education, the personal influence of the individual teacher upon the individual student. Notably in the department of English, a well-conceived system of student advisers places practically every young man in the Institute under the sympathetic direction of men specially chosen for their wisdom in such work, who admonish the youth not only as to his English, but as to his whole Institute experience. Moreover, through an admirable spirit of co-operation, the technical writings of students in many of the courses are now examined by the English department and weighed for their literary quality, thus emphasizing the supreme importance of the power of expression. This plan is being extended, wherever practicable, to other departments of instruction. Convocations, too, are held, at intervals, by which the whole Institute is assembled to hear some man of prominence speak upon problems of wide significance and value. A minor activity, but one of deep moment, is the encouraging of the students to sing together. To this end has been published (the second edition through the gift of a recent graduating class) a Technology Song Book, largely compiled by the lamented Bullard, '87, and enshrining his "Stein Song" as his chiefest legacy to Tech. For these enlargements of social opportunity for the undergraduate the Institute is in perpetual debt to the initiative of President Pritchett.

The marked development of Technology since the issuing of the first number of the REVIEW has not been limited, however, to undergraduate activities and relationships. In these ten years not only has the tuition fee been raised, but the requirements for

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admission have been very materially advanced; yet the numbers in attendance have increased (with some fluctuations) from an average of about twelve hundred to one of about fifteen hundred. The instructing staff has been enlarged from 164 to 245; two new courses (in Naval Architecture and in Electrochemistry) have been established; most of the elder courses have undergone extensive revision, to meet newer conceptions of education in applied science; the side of research work has been greatly strengthened and extended, with the creation of special research laboratories of physical chemistry, applied chemistry and sanitary science; the proportion of graduates of other colleges in attendance has been increased from 6 to 13 per cent.; and the degree of Doctor of Philosophy has been awarded to six candidates within the past two years. Such large questions as the relations of the Institute to the public, to the secondary schools, to the general problem of engineering education, and to the special problems of English teaching, mathematical teaching, and the development of literary taste, have had profound study, with notable and concrete results; and the furnishing of evening instruction to industrial employees seeking to fit themselves for administrative positions, admirably worked out, with Institute co-operation, in the Lowell Institute School for Industrial Foremen, is in a fair way of being attempted on a more extended scale. Furthermore, the Faculty has evolved a plan—which but awaits more favorable industrial conditions—for conducting, in co-operation with one of the largest industries of Greater Boston, joint theoretical and practical instruction to youth who cannot give all their time to attendance upon one of the regular courses at the Institute.

Of lesser, but nevertheless of vital consequence to the Institute has been the steady development in strength and usefulness, during these ten years, of the Technology Club, which, as a focus for alumni activity and a gathering place for the members of the instructing staff, plays a part no less important than that to be taken, for the undergraduates, by the projected Walker Memorial. The possession of this central meeting-place helped undoubtedly towards the success of the Association of Class Secretaries, which

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has been the active supporter, not only of the REVIEW, but of every good effort for the Institute, and which is now to enlarge its field of work in connection with the government of the Alumni Association, thereby greatly strengthening that body's influence. Significant, too, have been the public functions which have taken place at the Institute since 1898,—the inauguration of President Pritchett in 1900, and the celebration of the one hundredth anniversary of the birth of President Rogers in 1904. And of untold value in awakening and bringing together the alumni, the Faculty and the Corporation has been the discussion of the proposed alliance with Harvard University,—a controversy which loomed so large during 1904 and 1905. Whatever one's opinion as to the merits of that dispute, he must acknowledge that nothing else could have so effectively melted old indifferences and stimulated new activities. Largely out of that trial by fire has come the splendid spirit of co-operation which is to be the watchword of the great coming Reunion of 1909, and which will make the history to be recorded in the next ten years of the REVIEW significant and fruitful beyond that of any previous decade.

It would be foolish for the REVIEW to claim any large share of credit for these and for the many other advances which have taken place in Institute life and in Technology efficiency; but it would be unfair to itself and its supporters not to ask due appreciation of the part which it has played. It may do this without arrogance, since its rôle has been a purely passive one. The REVIEW has been a clearing house in which the many views of many minds might be exchanged; it has been a mirror in which Institute tendencies might be reflected, classified, and given direction; it has been a forum which studiously excluded partisanship. Even in the most dramatic period of recent Technology history, that in which fundamental policies were being hotly canvassed, the REVIEW preserved a judicial attitude and presented arguments upon this complex question from every point of view.

It is not to claim too much, however, to assert that the spirit of co-operation which lies at the root of most of what has been done since 1898 could have been fostered only with great difficulty, even

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could it have been aroused at all, had there been no REVIEW in which to focus widely scattered sentiment and wherein to make known constructive policies. To serve this necessary purpose was the avowed function of the magazine in the beginning, and remains its main aim today. That it has in some measure succeeded is indicated, its projectors believe, by the hearty and unflagging support of all the great forces that combine to make up this intangible entity, which, infinitely larger than its crowded buildings, infinitely broader than its narrow acreage, dominates so large a field in education and in American life.

JAMES P. MUNROE, '82.

The Best Men Wanted

The increase in honors that are coming to the Institute, and the new vistas that are opening before it, will undoubtedly attract a large entrance class; and, as Dr. Noyes indicates in his annual report to the Corporation, the larger body of applicants must go through some selective process, as our facilities will not allow us to accept all who apply for an education. Several of the classes have discussed this matter, and have started a propaganda to interest in Technology a class of young men who have the best type of manhood and high natural ability. These efforts are to be concentrated on a comparatively few men having the best qualifications, and these classes have appointed committees to make special investigation of the candidates suggested. These names are to be passed to Dean Burton, who will see that proper literature is sent to the young men and that they are fully informed in regard to the Institute.

If any of our readers know of any men fitting for college who are of high character, good natural ability, and well-rounded development,—choice men,—we shall be glad to have the names, and present the advantages of the Institute properly.

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A LABORATORY FOR PUBLIC SERVICE

A View of what the Research Laboratory of Applied Chemistry is and may be to the Country

We have, as a nation, acquired the habit of being vastly satisfied with what we have accomplished. We marvel at our enterprise in scraping iron ore from the earth's surface by steam shovels, in growing wheat on virgin soil, in stripping great areas of primeval forest, in burning natural gas and allowing petroleum to spout from the ground. Even Germany acknowledges that she cannot compete with us in raising cotton, and we cut more ice in a month in the single state of Maine than all the Pictet machines in France can turn out in a year. We control the copper market of the world —because we have the copper. If you want cheap sulphur, you must come to us, we pump it from the ground. We develop great centres of power distribution because our rivers run so fast down hill.

To these vast resources we have, indeed, brought a native energy, an unusual capacity for organization, and a genius for mechanical affairs. What we do, we do on a great scale, but we often do it very badly. It is quite time for us to pause in our self-congratulation long enough to inquire whether the things we are doing cannot be better done, whether, in fact, other nations have not developed and put to use much better methods, which, given equal opportunity, would put our own performance to the blush.

Although the resources of a country form the basis of its prosperity, this is, nevertheless, determined in the long run by the manner in which these resources are utilized, or, in other words, by the industrial efficiency of the means and methods of production. We have developed great transportation systems, we handle raw material on a titanic scale, we have applied machinery to the

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addressing of our letters and the sticking of the stamps, but it remains true none the less that with a few conspicuous exceptions our manufacturing operations are carried forward in trustful ignorance and disregard of many of the factors upon which real industrial efficiency depends. This is shown in the stupendous waste which accompanies the first crude preparation of the raw material; it is shown in the general absence of a true selective economy in the apportionment of that raw material among the different industries, and it is shown again, and yet again, in the losses which attend nearly every step in the progress of the raw material toward the finished product. One need only refer to the wastes which attend lumbering, or the growing of flax for seed, the making of coke in bee-hive ovens, and the failure to utilize the casein of skim milk as a high-grade food product, to realize vaguely something of what these initial losses are. The absence of proper selective economy in the adaptation of raw material to use is everywhere, as when our railroads use untreated ties and poles, when coal-tar is burned as fuel, crystal alum used for purifying water, or valuable publications printed on ground-wood papers. We are still polluting our streams with wool grease, still wondering whether we can make alcohol from waste molasses, still buying coal without reference to heating power, and paying 65 cents a gallon for cylinder oil.

When wastes so obvious and so easily remedied are everywhere taking heavy toll of our manufacturers, it is not surprising that in all lines of productive effort subtle and elusive problems present themselves and still further lower our industrial efficiency. Steel rails break by thousands, trolley wires snap, boilers corrode, milk-cans rust, unsightly bloom appears on leather, cloth is stained or tendered, paints fail to protect the metal underneath. In a large proportion of cases those who are confronted by the problem have neither the time, the training, nor the equipment required for its solution and yet such problems and thousands of others far more complex upon their face must be solved if our industrial efficiency is to be brought to its proper level.

No one at all conversant with the facts can doubt that our industrial salvation must be found in a closer alliance and co-operation

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between the scientific worker and the actual agencies of production. Such co-operation exists, as we are all beginning to learn, in Germany, and its results are evident throughout the world in the tremendous expansion of German industry. In our own country no agency has done more to supply the little leaven which may yet leaven the whole industrial lump than the Massachusetts Institute of Technology, and her graduates, by hundreds, are doing yeoman service in the development of our resources and the application of the scientific method to our practice. So far this is altogether as it should be, but in the present condition of our manufactures it is by no means enough. The time has come to bring the splendid scientific organization and equipment of the Institute to bear directly upon our industrial problems as an aggressive force working for their solution.

Since all material is subject to chemical laws and its properties and behavior influenced or determined by these laws, it follows that a large number, probably by far the greater number, of our industrial problems are problems in applied chemistry. No better field for the initiation of work intended to be directly effective in its bearing upon industrial efficiency could therefore have been chosen by the Institute authorities than that of research in applied chemistry upon some basis which renders the results obtained immediately available to those responsible for the conduct of industrial affairs.

That the Massachusetts Institute of Technology has found it possible to lead her sister institutions in the establishment of the Research Laboratory of Applied Chemistry is due to the generosity of Charles W. Hubbard, Esq., in supplying the funds required for the initial organization and beginning of its work.

The general object of the Laboratory is that of increasing the efficiency of industrial effort by carefully focussed and directed research in chemistry as applied to particular phases and problems of actual practice, but what gives the Laboratory its unique position is the relation in which it aims to stand to industry throughout the country. It will, so far as possible, be made a clearing house for problems in applied chemistry. Many of the expected problems have doubtless been already solved elsewhere, others may at

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the time be engaging the attention of outside specialists. In the one case the solution will be immediately forthcoming, in the other the Laboratory will endeavor to bring the applicant into touch with those studying the problem in other laboratories. There will remain, however, many problems of wide importance in their bearing upon industry, and from among these the Laboratory will select for its direct attack as many as its funds permit, giving preference always to those which promise in their solution to prove of greatest benefit to the community. Without attempting to indicate the lines along which this public service of the Laboratory may develop, one may, by way of illustration, point to such subjects for investigation as the cause and prevention of the corrosion of lead pipe, the breakage of steel rails, the waterproofing of cement structures, the utilization of wastes which now involve nuisance, the study of the atmosphere of street-cars and the conditions underlying proper ventilation, the relation of material and treatment to the brittleness of pottery, or the fireproofing of theatre scenery.

Not only will such altruistic service place the profession of chemistry upon a higher plane in the regard of the community by making evident the directness of its concern with the affairs of daily life, but the institution which fosters and inculcates service of this kind will benefit in even greater measure. Splendid as the prestige of the Institute already is and wide as her influence extends, both will gain immeasurably as the college through all its various departments becomes a focus in which is concentrated the attack upon the material problems of the time.

All this, so far as it relates to the Research Laboratory of Applied Chemistry, does not mean that the Laboratory will not welcome problems which have a specific and limited application to particular industries; for it is through problems of this class that the Laboratory will be brought into closest touch with industry and enabled to make its influence most directly and immediately felt by those whom it would benefit. No propaganda preaching the industrial value of research will make converts half so quickly as the actual solution of the particular problems by which the individual manufacturer is confronted and perplexed. For these reasons, no less

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than for the more compelling fact that it is to the manufacturers thus aided that the Laboratory at this stage of its development must look for its support, a large proportion of its work will be directed along lines suggested by the manufacturers themselves and leading, if successful, to their individual benefit.

The new Laboratory will constitute a division of the Department of Chemistry and Chemical Engineering, of which Dr. Henry P. Talbot is the head. To his foresight, breadth of view, and strong support must be attributed much of the promise of its scope and plan. The immediate direction of the Laboratory and responsibility for its results will be, however, in the hands of Dr. William H. Walker as Director of the Research Laboratory of Applied Chemistry. The selection of Dr. Walker for this important position is a peculiarly happy one, for he brings to the work a thoroughly well-trained mind, a fine record of attainment, an enthusiasm and energy which his students have found contagious, and a temperamental fitness for research along industrial lines. Dr. Walker is at the beginning of his usefulness. He was graduated in 1890 from Pennsylvania State College, an institution which has turned out many men of more than usual capacity. His collegiate training was supplemented by a university course at Göttingen, which led to his Ph.D. degree. He returned to State College as instructor in chemistry for two years, and came to the Institute as instructor in analytical chemistry in the autumn of 1894. Here his marked success in imparting his own enthusiasm to his students led to his rapid advancement to an assistant professorship; and later, after some years of direct contact with industrial affairs as partner in a large commercial laboratory, he was offered and accepted a full professorship in industrial chemistry. This position he still retains, thus making the experience gained in the Research Laboratory of Applied Chemistry directly effective in the routine instruction of the Institute. Dr. Walker's activities and interests have given him a notably wide general knowledge in the field of chemistry as applied to industry and a direct contact with many special lines of manufacture. His more recent studies and perhaps his most notable achievements have been concerned with the corrosion of metals.

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The paper in which his discoveries were announced was awarded the Nichols gold medal.

Dr. Walker has selected as his Research Associates Dr. Warren K. Lewis, M. I. T. '05, who earned his Ph.D. at Breslau, and Dr. William Guertler, a graduate of Göttingen and later *Privatdocent* at the University of Berlin, where he specialized in the chemistry of alloys. Both men bring an exceptional equipment to the work.

In addition to the Research Associates, who form the nucleus of the organization, the Laboratory staff already includes two half-time assistants, who also devote themselves to instruction, and three advanced students working for higher degrees.

The Laboratory is at present located on the fifth floor of the Pierce Building, where quarters barely sufficient for its immediate needs have been secured by rearrangement of the space devoted to other work. No prophetic vision is required to see this space outgrown or to follow the development of the Laboratory to the point where its necessities and the demands of manufactures upon it will require a separate building and elaborate special equipment.

As the Laboratory gains the confidence of manufacturers, their own facilities for experiment upon the large industrial scale will naturally be placed in increasing measure at its disposal. It is not too much to hope that the relations thus established may ultimately lead to the equipment and maintenance of many small special laboratories, all under the direction of the Research Laboratory, but each situated at the point of best study and attack for a particular industry, as at Gary for iron and steel or in the Lehigh Valley for cement. The possibilities for teaching industrial chemistry along altogether new lines and to incomparably better purpose which such a scheme of development holds out deserve the careful study of every friend of industrial education.

The recognition of the importance of the work of the Laboratory and its promise of helpfulness has been so prompt and general that already the need for additional funds has become imperative, if even the immediate oportunities are to be seized. The work now under way, which is of the first importance to several of our great industries, includes the study of case hardening as applied

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to special alloy steels, an investigation into the cause of the "gray sheets" which, because of brittleness, are the occasion of heavy loss to makers of galvanized iron, and a study into the causes determining the presence of pinholes in sheet tin plate. The direct bearing of this last-named problem upon the canning industry, the economy of milk transportation, and the permanence of tinned roofs everywhere is obvious. That all will ultimately be solved cannot be doubted in view of the gratifying progress already made.

The terms upon which the services of the Laboratory are offered to manufacturers are these:—

The Laboratory will undertake a specific problem and engage to direct its best efforts towards its solution. The Institute will furnish laboratory facilities and the co-operation of the general instructing staff in a consulting capacity. This phase of the arrangement is of the first importance, since it means that the facilities and organization of the Mechanical and Electrical Laboratories of the Institute as well as those of the Research Laboratory of Physical Chemistry are available for the special assistance they can render in particular aspects of the work.

Reports of progress will be made every three months. The applicant who consigns his problem to the Laboratory undertakes to pay the actual time cost of the one or two experimentalists actually engaged upon the work and the cost of special apparatus, but he is free from all expense involved in the direction of the work or which might otherwise result from the expert consulting service of members of the instructing staff not directly connected with the Laboratory. When results have been obtained, the original applicant has his option of two courses: he may either permit the Institute to publish the entire investigation for the general good of the community or he may elect to keep the results for his own benefit—either as a secret process or by having them patented in his behalf—by paying to the Laboratory for its purposes of further research a sum to be agreed upon at that time.

One has only to consider in the most casual way the opportunity of the Laboratory, to have technical research problems which have their basis in chemistry crowd upon the mind. Our cities are sub-

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merged in smoke; our roads are disintegrating under the action of the automobile; we deplore the destruction of our forests, and overlook the sources of paper stock everywhere at hand; we base the future of our agriculture on the diminishing supply of Chile saltpetre, while the nitrogen of the air is pressing with the weight of many thousand tons upon each acre; our peat deposits lie untouched, while we contemplate as best we may the failure of our coal supply; we erect great structures of reinforced concrete, knowing little or nothing of the ultimate mechanism which determines the setting of the cement and still less of the factors upon which the life of the reinforcing steel rods depends. It is with such problems and many others like them that the Research Laboratory of Applied Chemistry has to deal. It will deal with them not only with the prospect of their solution, but upon a basis which holds out the promise of the gradual development of general research methods for attacking the multitude of other problems in applied chemistry wherever they may arise. Best of all, the Laboratory affords an opportunity for the training of men for other laboratories, in which these methods will be applied to the solution of the problems of manufacturers and public service corporations everywhere. Simultaneously with this training of picked men will go forward advanced courses in the application of the chemical method to the needs of industry and seminars on general subjects in chemical technology which will be open to adequately trained students upon election.

No one at all familiar with the conditions under which thousands of American manufacturers are working can fail to realize the unique and fruitful opportunity which spreads out before the Laboratory, nor can they doubt that the funds for its development will be forthcoming. Within the last few years there has opened out to the worker in applied chemistry a new horizon with a sweep so broad that it is seen to include far more than the mere material gains which come from more efficient effort. It has come to be recognized that the lives of great masses of the community are constricted and confined and often mean and sordid, because our industrial efficiency as a people is still far below what it ought to

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be. Any general moral or spiritual uplift must find its basis in the increased efficiency of the worker, and in this stage of our industrial development no agency is more directly available for increasing this efficiency than that afforded by chemistry as applied to industry. Every waste that is prevented or turned to profit, every specification which gives a better control of raw material, every problem solved, and every more effective process which is developed makes for better living in the material sense and for cleaner and more wholesome living in the higher sense. It means much to the material and more to the higher well-being of German workmen that their nation now controls the coal-tar industries, the manufacture of fine chemicals, and the markets of the world in many other lines, chiefly as the result of the application of the scientific method to the problems of production. The general application of these methods will mean even more to our own country. This being so obviously true, it is a matter for congratulation to every Institute alumnus that the college which first applied the laboratory method in this country has gone forward until it now offers to all engaged in our industrial development the comprehensive benefits which research in applied chemistry will surely bring.

ARTHUR D. LITTLE, '85.

A Large Edition of the Review

In order that every former student may learn of the great advances that have taken place at the Institute recently, a copy of this number of the REVIEW is being sent to every man of whom we have record. Although it is true that the Institute is handicapped in some directions, it has slowly, but steadily grown in strength, importance, and usefulness, and with the election of a new President it will unfold and develop marvellously. As Mr. Snow shows in his article, about 1,500 of our 9,000 former students have passed the age of forty. Technology is just coming to its own. There is no limit to the possibility of its accomplishments.

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WHAT THE INSTITUTE STANDS FOR TODAY *

The Characteristics of its System of Education, its Methods and Ideals

This Institute was started forty-three years ago, largely through the initiative and efforts of one man, William Barton Rogers, for the purposes of establishing a system of education which should fit young men for effective participation in the affairs of life, and of emphasizing the fundamental importance of the study of science, of instruction by the laboratory method, and of direct personal contact between teacher and student, in such a system.

This was at a time, it is to be remembered, when the classical system of education still held undisputed sway; when teaching was done perfunctorily by lectures to large classes or upon the schoolboy plan of assigning a lesson to be learned and then holding a recitation upon it; and when, moreover, the ideal of education was to give the culture of the gentleman rather than the ability to *serve* of the man of affairs.

President Rogers' plan marked, therefore, the beginning of a new epoch in education; and the example of this Institute which he founded did much to promote the rapid extension of the methods and ideals for which it stood.

Today there is no longer great need of emphasizing the educational importance of scientific studies nor the educational ideal of fitting for effective service, but there has arisen a variety of new questions, which relate not so much to the kind of studies to be pursued nor to the ultimate purposes of education as to the system and methods by which the now generally recognized purposes can be best attained.

* Extract from a speech made by the Acting President A. A. Noyes, in welcoming President-elect Maclaurin, on behalf of the Institute, at the dinner of the Corporation and Faculty, held at the Technology Union, Dec. 15, 1908.

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And in this respect the Institute, partly as the result of the ideals of its founder, but mainly in consequence of a natural development of its methods, has come to represent an educational system which stands in sharp contrast to the university plan which is being followed in many of our eastern universities and which has been most logically and completely developed in the case of our nearest neighbor.

The characteristics of our system are:—

1. Cultural studies are closely correlated and interwoven with the professional work, while under the university plan the two groups of studies are ordinarily pursued successively, in separate undergraduate and graduate schools.

We have not adopted the plan of serving up the different sides of education separately,—*knowledge* in the secondary schools, *culture* in the college, *mental training* in the graduate departments. We hold rather that education is essentially an indivisible whole, that these three sides of it must go hand in hand, and that mental training especially should, in point of time, take precedence over culture, the former being given while the young man's mind and habits of thought are still in the plastic, formative state, and the latter being imparted gradually, but mainly in the later stages of the student's educational career, when it can be done most effectively.

2. The Institute lays, moreover, especial emphasis on work in the exact sciences; for training in scientific method and acquirement of the scientific spirit are considered to be not only essentials to professional success, but important elements in culture and in life.

3. The Institute has developed in an unusual degree conditions of personal contact between instructor and students, through the fact that most of its instruction is given to small sections of students or to individuals in the laboratories and drawing-rooms, or in the conferences recently introduced in first and second year subjects.

4. The courses of the Institute differ from those of many colleges, in that electives are introduced to a much less extent, in the belief that better results are obtained by prescribing, after the student has

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selected the profession for which he desires to prepare himself, the principal studies which he is to pursue. He is given, however, the choice between groups of optional studies relating to different branches of his profession and between a variety of electives in the group of general studies. We do not consider it well to give suddenly unlimited freedom in the choice of their studies to boys who have previously been accustomed to a definite curriculum in the secondary schools; for we believe that such freedom commonly results in superficiality rather than in soundness of training, and in narrowness rather than breadth. Freedom of choice should, however, be gradually increased, becoming greater in the higher years of the student's period of study.

5. There have been developed at the Institute sounder conditions of student life, from which has resulted a more duly proportioned division of time and interest between the studies and the social and athletic activities of students than prevails at many colleges. While the Faculty has welcomed the great development of student life which has taken place in the past few years, it demands of its students a standard of scholarship which is inconsistent with an excessive devotion to outside pursuits and with undue subordination of the intellectual to the physical and social interests.

6. Finally, the Institute aims to contribute to the further advance of the various branches of science and engineering included in its curriculum, through the development of courses of advanced study and research, through original investigations carried on in its laboratories, and through the participation of members of its staff as experts in industrial and engineering undertakings.

Applicants for admission to the Freshman class of the Institute must now present satisfactory evidence of preparation in two electives selected from a list of twelve elementary subjects. Heretofore only one elective has been required. The object of this additional elective requirement is to secure greater breadth of preparatory training.

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THE SECOND TECHNOLOGY REUNION

Arrangements are now being made for the Celebration next June on a large scale

If the increase in interest and numbers participating in the Third Technology Reunion over the Second Technology Reunion is as great as the second is likely to exceed the first, the Third Technology Reunion will have to be held in some less thickly settled country. Monday, Tuesday and Wednesday, June 7, 8 and 9, are the days set apart to this to-be-memorable convocation. The executive committee of the Alumni Association has appointed an executive committee for the Reunion, which will, in turn, appoint sub-committees to care for the various features of the celebration. The executive committee and the chairmen of the sub-committees will form the committee of arrangements. The executive committee consists of Edwin S. Webster ('88), chairman; Dr. Arthur A. Noyes ('86), Honorable Eben S. Draper ('78), George W. Kittredge ('77), Theodore W. Robinson ('84), Walter B. Snow ('82), Everett Morss ('85), Henry Howard ('89), and I. W. Litchfield ('85) secretary. The general programme has been discussed tentatively, and the following is an outline of the plans thus far made:—

Technology Union to be used as registration headquarters; Copley Hall to be opened during the three days as a general rendezvous, where there will be a desk and bulletin board for each class, with check-room conveniences, etc.

On Monday afternoon there will be an automobile trip through the suburbs of Boston; in the evening a reception in honor of President Maclaurin, and later on a Jubilee Smoker in a large clubhouse which will be given up to Tech men for that evening. Special acts from the coming Tech Show will be given during the evening, also selections by the glee, banjo and mandolin clubs. There will also be a stereopticon exhibit of interesting scenes and old relics. Will those of our readers who have anything that will be of partic-

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ular interest in this connection please communicate with the secretary of the committee?

On Tuesday, the second day, the professors will be in their departments to welcome former students, and at noon special trains will take the delegation to hotels along the North Shore, where a shore dinner will be served to classes. Class business can thus be conducted, and later on there can be a general mingling of Tech men on the seashore. Returning to Boston, there will be a buffet supper at Horticultural Hall, and at half-past eight the classes will form in the hall and march across the street to the "Pop" Concert at Symphony Hall, provided it is found that Symphony Hall is large enough for the purpose. At half-past ten the classes will go to Rogers Building and cheer, the building to be outlined with red fire.

On Wednesday morning, the third day, will occur the excursion down the harbor to the Atlantic House, where we were so handsomely entertained five years ago. The different classes will do their stunts in the arena. This year there will be a grand stand erected on one side of the field, in order to accommodate the larger crowd. In the evening will occur the grand banquet, at which it is estimated there will be more than a thousand men present. The dinner committee is already making elaborate preparations for this dinner.

As the celebration plans contemplate a very full programme, it is suggested that societies and fraternities who wish to hold reunions make arrangements to breakfast together on Monday or Tuesday. Members of former Tech boards and of Osiris are planning to do this. Some of the classes having anniversaries this year will flock by themselves Friday, Saturday, and Sunday, returning to Boston on Monday in time for the automobile trip or the reception.

The full particulars of the Reunion will be given in the April number of the REVIEW, which will be largely devoted to it. Some special committees have already been appointed, and the rest will be at work within a few days. This is a Tech year, and no man who can possibly make arrangements to be here can afford to miss the Second Tech Reunion.

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ORGANIZED TO PROMOTE INITIATIVE

The Active Part that the Alumni Association is to play in the Future

At the beginning of a new administration and almost on the eve of the fiftieth anniversary of the incorporation of the Massachusetts Institute of Technology its Alumni Association comes to its own as a power "to further the well-being of the Institute." Never before has it been so thoroughly equipped for "increasing the interest of the members in the school and in each other." Never has its organization been so well fitted to promote initiative, to provide for deliberation on matters of policy, to concentrate alumni opinion, and to inspire and render substantial support to the Institute.

The Alumni Association is no longer young: it has now attained to physical and mental maturity. Soon the list of former students will cross the ten thousand mark, all eligible as regular or associate members. The average age is rapidly advancing: fully fifteen hundred are over forty, each year nearly half a thousand reach the age of thirty. The Association is now in a position to do a man's work.

The fact that any former student may become an associate member, if found worthy by the executive committee, together with the increased privileges granted to such members in the matter of office holding, should have an immediate and beneficial effect in increasing the total membership of the Association. As thus, in time, it draws to itself practically the entire body of former students, it will grow in power and authority.

Upon the composition of the Council, the central feature of the new form of organization, must depend largely the standing and influence of the Association as a whole. Election to this body should be comparable in honor to election as a candidate for the Corporation. Not only should the membership of the Council be thoroughly representative through diversity in age, profession and

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locality, but it should inspire confidence and its opinion should carry weight.

As a deliberative body, the Council may consider in detail and at length matters of mutual interest to the alumni and the Institute. It is the medium through which individual or local alumni opinion can be quickly secured and made effective.

Centralization in the publication of the REVIEW, in the conduct of reunions and "Pop" concerts, in organization and recognition of branch associations, and in the administration of general alumni interests, is but a present and visible advantage of the recent reorganization. But to the future we may look for a far greater influence of the Association upon the Institute. The needs of the latter may be defined and authoritatively presented to the alumni and the public at large. Through its Council the Association may, on occasion, give independent expression to opinions regarding matters of Institute policy. It should grow into closer touch with the Corporation through its increasing representation in that body, and fit itself for recognized co-operation.

In the creation of a new Tech the Association may well prove a mighty power in upholding the hands of the President, the Corporation and the Faculty. Upon its shoulders must rest a goodly share of responsibility for success. It now has the necessary organization and machinery, its chosen representatives must loyally accept the full burden laid upon them, the will and spirit must be there. The next few years are to be years of work,—work of the kind that Tech men have learned how to do and that they may be relied upon to do for the good of their Alma Mater. The Alumni Association must stand in the van.

WALTER B. SNOW, '82.

Three years ago alumni headquarters did not exist: today it is one of the busiest offices in the Institute, employing regularly six clerks and stenographers, and doing an immense amount of varied work for the alumni, undergraduates and the Institute. This is only one small indication of the increase in the activity of the alumni.

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PREPARED FOR EFFECTIVE WORK

The Reorganization of the Alumni Association makes it a Power for Good

In the conduct of any association a constitution and set of by-laws are to that association what buildings and machinery are in the conduct of a manufacturing establishment or road-bed and rolling stock to a railroad. They are tools with which the work is done. As time progresses, conditions change, and what were once efficient tools are now out of date and unable to perform economically what they originally did to the best advantage. Old buildings and machinery must give place to new. Old rails and rolling stock wear out or become too small for economical use.

The organization of our Alumni Association has been very rapidly getting out of date in recent years, with the tremendous rate of increase there has been in the number of our alumni. Twenty years ago our alumni, including graduates and non-graduates, numbered about sixteen hundred. Now they amount to nine thousand. Then it was possible to hold a truly representative and deliberative meeting of the whole Association, as it is possible in a small town to hold a truly representative and deliberative town meeting. Recently meetings of the whole Association have become very superficial and very unsatisfactory, because far from representative of the whole Association, and not deliberative at all. It would be almost as difficult to get together all the members of our Alumni Association for deliberative and legislative purposes as to convene all the citizens of Boston for such a purpose. It is very clear, then, that our machinery has been out of date, and, to do the work now before us, that we must have modern tools.

There is another phase of the situation which demands attention. The work to be done by sixteen hundred alumni was far less

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in amount and in importance than that to be done by nine thousand,—an amount increasing rapidly year by year. It is not, therefore, a question of doing the same volume and the same kind of work now as that done twenty years ago. The problem is, how to do an increasingly larger, more varied, and more important work for a rapidly increasing constituency.

The work of all associations may be divided into three distinct classes,—legislative, administrative, and judicial. In very small organizations these functions can be assumed directly by the body itself. The larger the organization, however, the more must these matters be delegated. To what extent and how to delegate these functions to best do the Alumni Association's work is what the new constitution and by-laws attempt to define.

In drawing up these regulations, the endeavor has been to clearly differentiate between constitution and by-laws, and it may not be amiss here to present the following definitions of these two words:—

Constitution. A written instrument embodying fundamental laws, or principles of government, and laying down fundamental rules and principles for the conduct of affairs.

By-law. A law that is less important than a general law of constitutional provision, and subsidiary to it. A rule relating to a matter of detail.

The deliberative and legislative work of the Association has heretofore nominally been undertaken by the body as a whole, but actually by its executive committee. The whole body, however, has clearly been too unwieldy, and the executive committee too small and not sufficiently representative. In this connection the Association of Class Secretaries has shown the effectiveness of thorough representation and appropriate organization. It was with their help, and largely as the result of their example, that the "Council" was conceived,—a body with duties chiefly legislative, but to a small extent administrative as well. The Council is not the Association of Class Secretaries renamed, but a body larger, more representative, and more authoritative. To it, with a representative from each graduate class and local Alumni Association,

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with ten members at large from the Association, its executive committee, and its five most recent ex-presidents, and so constructed as to get continuity of policy intermingled with new thought, will the Association look for initiative, deliberative legislation and action.

The administration of the affairs of the Association at large and of the Council is put, by the new constitution, into the hands of the executive committee. This committee has some slight legislative and judicial powers as well, but in its administrative functions it is practically supreme. Its organization and manner of election will be the same as heretofore, and, in fact, it has been the central body around which changes have been made in effecting this reorganization.

The principal judicial functions of the Association are retained by itself as a whole. Certainly, no court for the settlement of disputes is necessary. Should any controversy arise, the Association itself will settle the matter through referendum.

It is not the intent of this article to emphasize the intricacy of organization nor to divert attention from the real work of the Association to its tools. To do good work, it is necessary to have good tools; but with what tools we now have, which should not prove far wrong, let us press on to the real work before us. Now that we have settled how to act, let us devote all attention and energy to acting.

A. F. Bemis, '93.

Following are the new constitution and by-laws:—

CONSTITUTION

ARTICLE I.

This organization shall be called the Alumni Association of the Massachusetts Institute of Technology. Its object shall be to further the well-being of the Institute by fostering the interest of its members in the school and in each other.

ARTICLE II.— Membership.

Section 1. The membership of this Association shall be classified as regular, associate, and honorary.

Sect. 2. All graduates of the Institute shall be regular members.

Sect. 3. Any other person who has been connected as a student with any graduate class may become an associate member on election by the Executive Committee.

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SECT. 4. Any present or former member of the Corporation or of the Faculty of the Institute may be elected an honorary member by the Executive Committee of this Association.

SECT. 5. Associate members and honorary members shall be entitled to all privileges of regular members, except that of holding the elective offices in this Association specified in Article III., Sections 1 and 2.

ARTICLE III.— OFFICERS, COMMITTEES, ETC.

SECTION 1. The officers of this Association shall be as follows: There shall be a President, two Vice-Presidents, and a Secretary-Treasurer, who, with four other members, shall constitute an Executive Committee.

The President and Secretary-Treasurer shall be elected for one year, the Vice-Presidents and members at large of the Executive Committee for two years.

One Vice-President and two members at large of the Executive Committee shall be elected annually.

SECT. 2. There shall be a Nominating Committee of six members, who shall serve for two years, three being elected each year. No member of this committee shall be eligible for immediate re-election.

SECT. 3. There shall be a Council composed of the five latest living ex-presidents, ten members elected at large, and one representative from each graduate class and from each local organization which is given representation by the Executive Committee. The officers mentioned in Section 1 shall be members of the Council.

The ten members at large shall be elected for terms of two years, five being elected each year. Representatives of classes shall be elected for terms of five years, and representatives of local alumni organizations for one year.

SECT. 4. Whenever the Executive Committee shall so approve, any local alumni organization (having its headquarters not less than twenty-five miles from Boston), certifying to a membership which includes twenty-five or more members of this Association, shall be given representation in the Council.

ARTICLE IV.— ELECTIONS.

SECTION 1. The officers of this Association and others holding elective positions referred to in Article III., and candidates for election to the Corporation, shall be chosen by letter ballot.

SECT. 2. Only members of this Association are privileged to vote for representatives of classes or representatives of local alumni organizations.

ARTICLE V.— DUTIES OF OFFICERS.

SECTION 1. The duties of the President, Vice-Presidents, and Secretary-Treasurer shall be those commonly pertaining to their offices. They shall perform the same duties for the Council.

SECT. 2. The Executive Committee shall look after the general interests of the Association, shall have power to fill all vacancies arising among officers or committees elected by the Association, shall have full charge of all balloting, shall pass upon all applications for honorary and associate membership in the Association, and shall have charge of the office and routine work of the Association. It shall also be the Executive Committee of the Council.

SECT. 3. The Council shall act as the representative of this Association in the consideration of all matters not otherwise delegated.

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At the request, in writing, of any twenty-five members of the Association, the Council shall consider any matter pertaining to the general welfare or work of the Association, make recommendations thereon, and, if so requested, shall through the Executive Committee, poll the Association by letter ballot,—said ballots to be mailed within thirty days of receipt of such request.

SECT. 4. The duties of the Nominating Committee shall be to present, through the Secretary, nominations for all offices to be filled and nominations for candidates for election to the Corporation.

ARTICLE VI.—MEETINGS.

Meetings of the Association may be called at any time by the Executive Committee, and shall be so called at the request, in writing, of any twenty-five members of the Association.

ARTICLE VII.—AMENDMENTS.

This Constitution may be amended at any time by letter ballot. Proposed amendments, either indorsed by the Council and approved by the Executive Committee, or indorsed by fifty members of the Association, shall be sent by the Secretary to all members of the Association, with notice of the time of closing the polls, which shall be not less than thirty days from the date upon which the notice of proposed amendment is sent out.

BY-LAWS.

ARTICLE I.—ELECTIONS.

SECTION 1. Prior to October 10 the Nominating Committee shall transmit to the Secretary nominations for the offices to be filled and nominations for term members of the Corporation of the Institute. The nominations for election to the Corporation shall be at least five more in number than the places to be filled. The Secretary shall publish the nominations transmitted by the Nominating Committee in at least one daily paper in the city of Boston before October 15. Additional nominations for any office or for election to the Corporation, signed by at least thirty members of the Association entitled to vote for such nominees, shall be placed on the official ballot by the Secretary if received by him before November 5.

SECT. 2. Prior to November 20, letter ballots containing the names of all candidates shall be sent by the Secretary to all members of the Association entitled to vote for such candidates. In order to be counted, a ballot must be returned to the Secretary, enclosed in an envelope indorsed with the voter's signature and class. The polls shall close December 20, and the Executive Committee shall thereupon canvass all ballots and announce the result. The candidates receiving the largest number of votes shall be deemed elected. Should there be a failure to elect on account of a tie, the tie shall be resolved by lot drawn by the Secretary.

SECT. 3. At least thirty days before the March meeting of the Corporation, the Secretary shall send to the Nominating Committee of the Corporation the names of the candidates receiving the largest number of votes for election to the Corporation, in number two more than the number of vacancies.

SECT. 4. If any vacancy occurs among the term members of the Corporation through death, resignation, or otherwise, the Alumni Association shall choose for each vacancy two candidates in addition to those chosen according to the provisions of Section 2 of this Article.

SECT. 5. Only members of the Alumni Association who have not been connected with

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the Institute as students for at least five years shall be entitled to vote for term members of the Corporation.

SECT. 6. Nominations for representatives to the Council shall be made by the organizations which they represent, but the Executive Committee shall have charge of all balloting for election thereof.

SECT. 7. For the first year of the Council, the ten members at large shall be elected five for a term of one year and five for a term of two years, and the representatives of classes whose years end in 1 or 6, 2 or 7, 3 or 8, 4 or 9, and 5 or 0, shall be elected respectively for one, two, three, four, and five years. The provisions in Sections 1, 2, and 3 of this Article shall not apply in the case of nomination and election of these members and of the first set of representatives of alumni organizations, but all matters relating thereto shall be in the hands of the Executive Committee.

Committees already elected by this Association shall continue for the terms for which they were chosen or until their successors are chosen by the Council.

This section shall become void when its provisions have been carried out.

ARTICLE II.—BRANCH ASSOCIATIONS.

Any ten former students of the Institute residing in a given locality may form a local alumni organization, which, upon approval of the Executive Committee, may be enrolled as a branch association, providing, however, that not more than one such organization shall be recognized in any one district. Lists of members, with addresses, shall be annually sent to the Secretary by each branch organization.

ARTICLE III.—ASSOCIATE MEMBERSHIP.

SECTION 1. Any non-graduate member of a class which has been graduated may become an associate member on election by the Executive Committee. Applications for associate membership shall be submitted in writing to the Executive Committee. The names shall be voted upon by ballot, and the affirmative votes of a majority of the entire Executive Committee shall be necessary to elect. The names of those elected shall be published by the Secretary in the official organ of the Association.

SECT. 2. The Secretary shall notify each associate member whose dues have remained unpaid for three consecutive years, such notice to be sent by mail to the member's last-known address; and, if at the expiration of thirty days after sending such notice such dues are still unpaid, such associate membership shall be forfeited. The Executive Committee may, however, at its discretion, reinstate such persons upon the payment of all arrears.

ARTICLE IV.—MEETINGS.

The annual meeting of the Council shall be held in January. Special meetings may be called at any time by the Executive Committee, and shall be so called at the request, in writing, of ten members of the Council.

ARTICLE V.—COMMITTEES.

The Council shall have power to appoint standing committees not otherwise provided for in the Constitution or By-laws.

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ARTICLE VI.— DUES.

SECTION 1. The annual dues for regular and associate members shall be $2.

SECT. 2. A payment of $25 at any one time shall exempt any member from further payment of dues.

ARTICLE VII.— OFFICIAL ORGAN.

SECTION 1. THE TECHNOLOGY REVIEW shall be the official organ of this Association, and its editorial management and publication shall be vested in the Council.

SECT. 2. Members not in arrears shall be entitled to receive all publications of the Association.

ARTICLE VIII.— AMENDMENTS.

These By-laws may be amended at any time by a majority vote of the full membership of the Council, provided thirty days' notice of such amendment has been given through publication in the REVIEW.

Growth of the Society of Arts

The winter programme of the Society of Arts of the Institute was opened December 7 by an address on the Charles River Basin improvements. About four hundred were present. Dr. Louis Bell lectured on "Modern Illuminants and Illumination," December 17. On January 13, Dr. William H. Walker, of the Laboratory of Applied Chemistry, will give an address on "The Corrosion of Iron and Methods of Preventing It." January 28, Dr. Charles P. Steinmetz, of Schenectady, will talk on the Future of Electricity. On the anniversary of the birth of Charles Darwin the Society will hold a memorial meeting. Professor Charles E. Lucke, of Columbia University, will give a lecture on "The Gas Engine and its Relation to Other Prime Movers." Professor Robert S. Woodward, president of the Carnegie Institution, will address the society on the "Larger Research Problems of the Carnegie Institution." Professor George E. Hale, director of the Mount Wilson Solar Observatory of the Carnegie Institution, Pasadena, Cal., will address the society some time in April on "Recent Advances in Astrophysics." Other lectures are being arranged for. Over fifty new members have joined the society this year.

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RESULT OF ALUMNI ELECTION

Snow, Robinson, Richards, French and Whipple are Nominated for the Corporation

At the election for officers of the Alumni Association and term members of the Corporation, which closed on the 20th, the following officers of the Alumni Association were elected: Edwin S. Webster ('88), president; Frank E. Shepard ('87), vice-president; Walter Humphreys ('97), secretary; William S. Johnson ('89) and Charles F. Park ('92), executive committee; Harry W. Tyler ('84), Edward H. Huxley ('95) and Frederick H. Hunter ('02), nominating committee; Linwood O. Towne ('78), committee on school; James P. Munroe ('82), trustee of the alumni fund and of the life membership fund; Frank H. Briggs ('81), advisory council on athletics.

The five candidates elected for term members, from which the Corporation will choose three, are Walter B. Snow ('82), Theodore W. Robinson ('84), Charles R. Richards ('85), Hollis French ('89) and George C. Whipple ('89).

Brief sketches of the men selected are given below:—

WALTER B. SNOW, '82. Graduate in Mechanical Engineering. Publicity Engineer, 170 Summer Street, Boston, Mass.

One year each as Assistant in Mechanical Engineering, M. I. T., as machinist and as shop foreman. For twenty-two years with B. F. Sturtevant Company as draughtsman, chief draughtsman, mechanical engineer, manager of Advance Department, and in charge of design and construction of new plant at Hyde Park, Mass. Publicity engineer, conducting publicity for various engineering and manufacturing concerns, 1907–08.

Author of "Mechanical Draft" and "Steam Boiler Practice." Contributor to the engineering press. As lecturer, has visited the leading technical schools of the country.

Member American Society of Mechanical Engineers, Societies for the Promotion of Engineering and Industrial Education, Industrial Committee of the Twentieth Century Club, Boston, Massachusetts Commission for the Blind, and Board of Trustees of the Watertown Free Public Library.

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Secretary of Class of '82. Secretary of the Association of Class Secretaries for the first six years of its existence. Successively member of executive committee, vice-president 1903–06, and president, 1908, of the Alumni Association. Member of publication committee of THE TECHNOLOGY REVIEW, and in the past of various committees concerned with the activities of the Alumni Association.

THEODORE W. ROBINSON, '84. Graduate in Mining Engineering. First Vice-President Illinois Steel Company, Chicago, Ill.

Chemist Joliet Steel Company, 1885–89. Manager Blast Furnaces Illinois Steel Company, Milwaukee, Wis., 1889–92. General superintendent Colorado Fuel and Iron Company, Pueblo, Col., 1892–99. Illinois Steel Company, 1899–1908.

Chairman School Management Committee of the Chicago Board of Education. Chairman Illinois Committee of National Society for the Promotion of Industrial Education. Member American Institute Mining Engineers. Member British Iron and Steel Institute.

President North-western Alumni Association 1892 and 1903.

CHARLES R. RICHARDS, '85. Graduate in Mechanical Engineering. Director of Cooper Union, New York city.

Assistant superintendent Whittier Machine Company, 1886. Director Department of Science and Technology, Pratt Institute, 1888–98. Director Department of Manual Training, Teachers' College, Columbia University, 1898–1908. Trustee Children's Aid Society of New York, 1904–08. First secretary National Society for the Promotion of Industrial Education, 1906–08. Special Agent Department of Labor, State of New York, in charge of investigation into labor supply in industries of the state, 1907–08.

Member American Society of Mechanical Engineers.

President Technology Club of New York, 1908.

HOLLIS FRENCH, '89. Graduate in Electrical Engineering. Member of the firm of Hollis French & Allen Hubbard, consulting engineers, Boston, Mass.

After spending about a year in the works of the Thomson-Houston Electric Company and nearly two years in Europe as representative of the Thomson Electric Welding Company, became associated with Messrs. Stone & Webster until 1894. In private practice as consulting engineer in Boston until 1896, when the present partnership with Mr. Allen Hubbard (Yale, '83) was formed. Their practice consists of the design of power stations for steam and electric work, the development of water power and its transmission and application by electricity, domestic engineering in modern buildings, etc.

The firm has a large practice. They are consulting engineers for a number of important corporations.

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GEORGE C. WHIPPLE, '89. Graduate in Civil Engineering. Consulting Engineer, New York city.

Biologist Boston Water Works, 1889–97. Director of Laboratory of the Brooklyn Water Works, and Department of Water Supply, Gas and Electricity, New York city, 1897–1904. Department engineer, Commission on Additional Water Supply, New York city, 1903. Member of firm, Hazen & Whipple, consulting civil engineers, 1904–08. Also Consulting Professor of Water Supply Engineering, Brooklyn Polytechnic Institute.

Author of "Microscopy of Drinking Water," "Value of Pure Water," "Typhoid Fever," besides many scientific memoirs.

Member American Society of Civil Engineers. Member (president) Brooklyn Engineers' Club. Member American Chemical Society. Member Society of American Bacteriologists. Member American Public Health Association. Member American Water Works Association. Member New England Water Works Association. Member Society of Municipal Improvements. Fellow American Society for Advancement of Science. Fellow Royal Microscopical Society of London. Member Society for Promotion of Engineering Education. Member Society of Arts, Boston. Member National Arts Club, New York.

Member Technology Club of New York.

Alumni Dinner, January 14

The annual Alumni Dinner, which will be held January 14, will unquestionably be the largest and most enthusiastic dinner that the Association has ever held. The Association has now outgrown any Boston hotel, and it has been decided to hold the dinner at Horticultural Hall, which is admirably arranged for such an event, as a thousand people can be seated there comfortably.

The speakers will be Dr. Maclaurin, President-elect of the Institute; Dr. Noyes ('86), Acting President; Governor Eben S. Draper ('78) and Professor Robert S. Woodward, president of the Carnegie Institution.

One important innovation will be selections rendered by the Glee Club, which will also lead the singing, the singing tables being located adjacent to the Glee Club table. This will be the first presentation of Dr. Maclaurin to the alumni, and it will be an occasion of great importance of a most important year.

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AMONG THE UNDERGRADUATES

The Beginnings of a Wholesome Social Life—A Study in Student Organization

Since the Institute opened for the fall term, everything connected with the social side of student life has centred in and about the new Technology Union on Trinity Place. It has been a source of inspiration and strength for every student interest, and has inaugurated a new era of vastly changed and improved conditions for the undergraduates.

The Union serves as a regular boarding place for about 150 men who believe they can live here cheaper and better than elsewhere. About 700 patronize it for lunch every day, and during the day it is well filled with students preparing work or passing away time between lectures.

Three times a week, on Mondays, Wednesdays and Fridays, the musical clubs furnish a leader and pianist, and for half an hour, between half-past one and two o'clock, the men practise Tech songs around the piano. There is a private dinner here almost every evening, and sometimes two or three; and every Friday night occurs the regular smoker, when the Entertainment Committee provides some attractive programme. These entertainments consist of lectures, excellent concerts by the musical clubs, and recently a "hook" night, when local talent furnished amusement of a convulsing character. Here, also, are located the offices of the various student activities, where opportunities are afforded for conducting business in a business-like way, and although the quarters are cramped, the results are most encouraging.

The new Union has made possible the carrying out of an innovation by the undergraduates which has attracted the attention of the entire college world. The Institute Committee has recently been reorganized, and is now a representative body of about twenty-

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five men, embracing all student interests. At the head of this body is the Executive Committee, consisting of five members, who may be appointed from the student body at large. This committee has rather limited powers, its functions being to prepare matters and bring them to the attention of the Institute Committee in such a way that they can be intelligently and promptly acted upon. It has taken for its province any matter that may have bearing on the welfare of students. The Institute Committee appoints the members of the Union Committee, from whom it receives weekly reports and over whom it exercises a sort of general oversight. Other interests have recognized it in this capacity, and have asked the committee to act as an advisory board. The representatives of the Institute Committee are in close touch with the alumni and with the Faculty, so that in another way co-operation is playing a large part in developing an unusual undergraduate organization.

The new "point system" adopted by the Institute Committee is explained in the following from *The Tech* of October 9. A few changes have since been made.

"The object of this report is to propose a scheme whereby the labor connected with student activities may be distributed as widely as possible, interest in athletics and social life may be stimulated, and standard of scholarship among those interested in these matters may be raised. This plan is based on the assumption that every man will properly perform the duties attached to his office, and we have been guided by the standard of benefit to the general social life and to the whole student body of the Institute.

"The plan is to rate every position carrying with it specific duties at a number of points indicated by the scheme below, and to allow no one person to occupy positions aggregating more than ten points. The plan is to be administrated by the Institute Committee or by a sub-committee appointed by them."

The scheme of division follows:—

Class A. 10 points: editor-in-chief of *The Tech;* editor-in-chief of *Technique;* general manager of Tech Show; president of the senior class.

Class B. 9 points: managing editor of *The Tech;* business manager of *The Tech;* business manager of *Technique;* general manager of the musical clubs; business manager of Tech Show; stage manager of Tech Show;

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president of the junior class; Executive Committee of the Institute Committee; manager of the track team.

Class C. 8 points: president of the M. I. T. A. A.; president of the Y. M. C. A.; presidents of the professional societies; members of the editorial and business staffs of *The Tech;* members of *Technique* board; captain of track team; president of the sophomore class; president of the freshman class; advertising manager of Tech Show; Junior Prom. Committee; Senior Portfolio.

Class D. 7 points: members of the Institute Committee; assistant business managers of Tech Show.

Class E. 6 points: assistant advertising managers of Tech Show; principals of Tech Show; manager of the basket-ball team; manager of the hockey team; manager of the tennis team; assistant general manager of the musical clubs; leaders and managers of the musical clubs.

Class F. 5 points: chorus of Tech Show; assistant manager of the track team; *Technique* Electoral Committee; candidates for track, cross country, hockey, fencing, and basket-ball teams; members of the musical clubs.

Class G. 4 points: managers of class teams; assistant managers of basket-ball, hockey, and fencing teams; news staff of *The Tech;* managers of the golf and tennis teams; *Architectural Record.*

Class H. 3 points: members of and candidates for class teams; treasurers of classes; secretary-treasurer of the M. I. T. A. A.; undergraduate members of the Advisory Council; members of and candidates for golf and tennis teams; gymnasium team.

Class I. 2 points: secretaries of classes; members of the M. I. T. A. A.; secretaries and treasurers of professional societies; officers of the Civic Club; secretary-treasurer of the Y. M. C. A.

Class J. 1 point: vice-presidents of all organizations; standing committees of professional societies; standing committees of the Y. M. C. A.; officers of the Co-operative Society; president and secretary of the musical clubs; officers of all other clubs of open membership.

"Note 1. Where membership in a lower class is a necessary adjunct to a position in higher class, only the higher number of points will be counted.

"Note 2. As a special encouragement to athletics, men in classes B, C, and D and E may also be candidates for any 'varsity or class athletic teams, said candidacy being counted at 1, 2, 3, and 4 points respectively.

"Note 3. Where the duties of any office are confined to a limited time,

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he points for that office shall be counted only between definite limits of time to be set by the Institute Committee.

"Note 4. The Institute Committee or a sub-committee of it shall decide cases outside the ground covered by this scheme with such changes as may be adopted; but no special exception or exemption from this ruling shall be permitted."

The enthusiasm fostered by these recent advances is finding an outlet in the various forms of athletic sports in which Institute students find time to indulge. Cross-country racing, which for the last two or three years has been increasing in popularity here, has developed a team this year which defeated Harvard by a decisive score, and proved itself superior to the teams of all other colleges except Cornell in the intercollegiate contest at Princeton. The fencing team begins the season with very encouraging prospects, having in addition to Grübnau and Loring, who did excellent work last year, Ensign Knox, who won his "N" as captain of the fencing team at Annapolis, and who was champion fencer on the team of the battleship "Virginia." He entered the course of Naval Architecture this year. The basket-ball team won its first contest handily over the Dartmouth team at Hanover, and promises to give an excellent account of itself all through the season. Much interest is taken in hockey, and a large number of last year's successful team are again competing for a place. Never in the history of the event was there a more closely contested Field Day than that held on November 6, and never were the freshman and sophomore classes so nearly matched. The unusual result of the contest was that the freshmen won both the tug-of-war and the football match, the latter after a most pluckily fought battle. Field Day is now an event of much importance, and the crowd this year was a record breaker for Tech Field. The next important athletic event is the indoor meet, January 8. There is a large field practising for this event, and there is much speculation as to which class will carry away the honors. Among the students who registered this year is W. R. Dray (Yale, '08), holder of the world's pole vault record of 12 feet, 9¾ inches. Much of the improvement that has taken place in athletics is due to the hard work and energy of Coach Kanaly, who has done wonders with the men.

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Because of compulsory work in the freshman year, physical training is a much more integral part of the business of the Institute than it has been before. Regular instructors are provided, who make anthropometric measurements of the men with a record of their physical condition, so that improvement during the year may be noted. During the fall Dr. Dudley Sargent, of the Hemenway Gymnasium, gave a series of lectures in which he made a plea for athletic students rather than student athletes. The impetus which compulsory physical training has given to gymnasium work will no doubt develop a very strong gymnasium team before the season is over.

The enterprise that marked *The Tech* last year is continued under the present management, and the influence it exerts on all undergraduate interests is strong and helpful. It is still published three times a week, although the editors find it difficult to properly present the news and are seriously considering publishing a daily paper. That this movement will be made before long there is little doubt. Things are moving so fast here just now that the alumni will find it well worth their while to subscribe to *The Tech* in order to keep posted during the coming period of great alumni and undergraduate activity. *The Tech* is a newspaper in the real sense of the word. It is dignified, serious and is wholly devoted to advancing the interests of the Institute.

Since the last REVIEW was issued, the student correspondents of the various daily papers met and formed the Technology Press Association, having for its object the advancement of the interests of the Institute. Every Boston daily paper is represented in this organization, as is also the Associated Press. Those who read the Boston papers have had an opportunity to observe how efficient the news service is. It will interest the alumni to know that the publication of the news relative to the appointment of Dr. Maclaurin was handled entirely by the Technology Press Association, and the interview with Dr. Maclaurin clipped from the *Herald*, which was sent to members of the Alumni Association, was secured by a member of the Technology Press Association, who went to New York for the purpose. The news is now gathered and dis-

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tributed to the papers systematically, and, so far as it is possible, the student reporters prevent sensational news from being published.

The annual Tech Show has reached a point where it is now considered by good judges to be equal, if not superior, to any other college production, and the forthcoming show promises to be by far the most successful yet given. The book this year is written by S. A. Malcolm ('10), and differs from the shows of ten years past in that the scenes have not a Technology setting. The plot of the play is based on the landing of the Pilgrim Fathers, part of the action being laid in Holland and part in America. It is said to be filled with bright skits and catchy lines. The show is given during Junior Week, which occurs in April. The management has been fortunate in securing James R. Francis, who has so successfully coached the last three shows.

To those of the older men who have never seen a *Technique*, the recent books would be a revelation. No better college annual is produced in the country than this one, which is an effort of the junior class and is brought out Junior Week. Work on the 1910 *Technique* is now going forward.

What has been said of athletics and other activities is also true of the musical clubs, which are vastly improved over those of former years. The concerts of the Glee Club have been received with great enthusiasm and appreciative audiences. Alumni who attend the annual dinner on January 14 will hear selections from the Glee Club, and it is likely that the orchestra of the musical clubs will furnish the instrumental music for that occasion.

The different professional societies are also making rapid advances. Every department at the Institute is represented by a flourishing undergraduate organization, which gets into closer relations with the outside world through evening talks by some representative engineer or manufacturer. The record of the season's activities of these societies would take up more space than the REVIEW can devote to it. It is sufficient to say, however, that they are accomplishing not only a tremendous amount of good in a social way, but by supplementing the courses of instruction and imparting valuable information in an attractive way.

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During very recent years it has been the custom to occasionally convene the students in Huntington Hall for the purpose of listening to an address from some man of note. Since the fall term began, there have been three convocations, which were addressed by Cameron Forbes, Governor of the Philippines, on October 29; Benjamin Ide Wheeler, president of the University of California, on November 12; and by Dr. Maclaurin, President-elect of the Institute, on December 15. These convocations are very popular with the students, who assemble fifteen or twenty minutes before the appointed time in order to indulge in congregational singing and cheering under song and cheer leaders.

The enforcement of the "point system" by the Institute Committee has made it necessary to press a large number of new men into service. This is true of each of the four classes, and it has had the immediate effect of stimulating the classes to greater action. The juniors were probably more seriously affected by it than any other class, but they voted to uphold the Institute Committee in its action, realizing the eventual good that would come from it. The students are looking to 1910 to carry out the excellent work that has been started by the seniors, and it will require the best talent the class can offer to continue the work that has been so ably begun. The sophomores, although defeated on Field Day, are good losers, and are making plans to increase interest in class affairs. The freshman class seems to be one of much promise, and to it we look for large things. It has so far risen to its privileges quite as it should, and the "point system" is developing individuals who will be of much use to the interests of the class and Technology during the coming four years. 1912 realizes the unusually favorable position in which it is placed, entering, as it did, at an auspicious time, and seems to be taking advantage of every opportunity to help in the general advancement.

Every year the number of sons of Tech men who enter the Institute is growing larger. There are no statistics telling how large this number is. A few of the men who are identified as sons of Tech men are: D. F. Baker, son of D. Baker ('85); G. W. Bowers, son of G. Bowers ('75); S. Cabot, Jr., son of S. Cabot ('70);

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K. W. Faunce, son of L. Faunce ('77); N. G. Herreshoff, Jr., A. S. D. Herreshoff, and A. G. Herreshoff, sons of N. G. Herreshoff ('70); I. S. James, son of S. James ('76); W. C. Kerr, C. P. Kerr, sons of W. H. Kerr ('83); C. R. Main, son of C. T. Main ('76); H. F. Miller, son of E. C. Miller ('79); R. E. Morse, son of P. S. Morse ('84); F. B. Silsbee, son of F. H. Silsbee ('74); E. F. Stimpson, son of T. F. Stimpson ('77); J. B. Tenney, son of F. Tenney ('83); E. C. Tolman, son of J. P. Tolman ('68); and F. B. Wood, son of F. W. Wood ('77).

In welcoming the entering class at the first convocation of the year, President Noyes said:—

You will find here a characteristic Institute student spirit,—one which cannot be matched, I believe, at any other college. Thus the antagonism between the two lower classes, which in many colleges leads to hazing and rushes, is here replaced by friendly rivalry in athletic contests and by true comradeship between members of the different classes in the numerous student activities. . . . That spirit is well illustrated by a variety of facts relating to our student life. Thus, in not many institutions, I believe, would the trustees venture to place the management of a dining-room doing a business of $30,000 a year, or even a club-room with all the inherent possibilities of abuse and disorder, in the charge of students, as has been practically done with the new Technology Union by the Institute Corporation; nor in many colleges would the Faculty dare to relinquish all share in the control of athletics. Moreover, in few places have the students collectively taken such sane interest in the promotion of their own welfare. As you know, the Institute Committee has recently adopted the "point system" to avoid excessive participation of individuals in social or athletic activities. The second-year class has taken such action as to do away with the useless and harmful activities of the night before Field Day. The Tech Show management of last year insisted that students should not take major parts who by so doing would be prevented from keeping up with their class. I mention these things, so that those of you who have come here for the first time may know that, though you may miss here some of the boyish features of college life, you will find in place of them a sounder, more manly sentiment, which is even more conducive to the development of a successful student life.

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ALUMNI ARE ACTIVE

Class Secretaries recommend New Constitution and turn the "Review" over to Alumni Association—New Technology Associations at Portland, Ore., and Seattle, Wash.—Enthusiasm over Reunion

ASSOCIATION OF CLASS SECRETARIES.—The Association of Class Secretaries has held two meetings recently to discuss the proposed constitution and attend to other business. The first one was held October 16, and was a joint meeting with the Executive Committee of the Alumni Association. This meeting was held at the new Tech Union, and was called to consider plans for the Second Tech Reunion of 1909 and receive the report of a special joint committee on the proposed reorganization of the Alumni Association.

In speaking of the coming reunion, Secretary Fay ('93) called attention to the fact that, while the 1904 alumni mailing list contained less than 4,000 names, it now numbers about 8,700,—the increase being due largely to the addition of names and addresses of former students, not graduates, many of whom have not been in touch with Institute affairs for years. About 1,600 were present at the first reunion, and it is reasonable to expect that we may have a larger number next year. It was moved and enthusiastically carried that we have a reunion in 1909, and that the slogan for the reunion be "co-operation." Professor Allen ('72) moved that the whole matter of the reunion be placed in the hands of the executive Committee of the Alumni Association, and that the Association of Class Secretaries pledge its most hearty co-operation.

A. F. Bemis ('93), chairman of the special joint committee, presented the majority and minority reports on the new constitution and by-laws, after which a lively discussion followed. The constitution and by-laws presented in this number of the REVIEW were

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finally unanimously adopted. The total attendance at this meeting was forty-seven.

On November 12 occurred the twelfth annual meeting of the Association of Class Secretaries at the Technology Club, with Professor Richards ('68) in the chair. Dr. Noyes addressed the members, telling them about the new President, whose election had just been made public. There was a long Technology cheer given for Dr. Noyes and Professor Maclaurin, and the following telegram was sent to the latter: "Technology Association of Class Secretaries, assembled at annual meeting, sends greetings and pledges of loyal co-operation to our next President."

The present officers of the association were re-elected. On motion of Mr. Munroe ('82) a vote expressing the appreciation of the secretaries for the work that Dr. Noyes has done was enthusiastically carried.

I. W. Litchfield ('85), managing editor of the REVIEW, presented the annual report of THE TECHNOLOGY REVIEW. It showed that the publication is on about the same basis as it was a year ago. New plans for the future were presented, and the secretaries were asked to co-operate in securing advertising for the January REVIEW. The chief items of the financial report are as follows: receipts from advertising, subscriptions, etc., $2,905; expenses, $2,864; bills payable, $390; bills receivable, $243,—leaving the REVIEW little over a hundred dollars in debt. The balance on hand at the beginning of the year, however, was somewhat less than a year ago. The number of subscriptions to Volume IX. was 1,529; Volume X., 1,607,—increase of 78. Old subscribers who renewed to Volume IX., 1,173; Volume X., 1,406. Percentage of renewals, Volume IX., 86.4; Volume X., 87.4. The advertising in Volume IX. was $1,222; advertising in Volume X. was $1,100, which is considered a very small loss during a trying period.

Walter Humphreys ('97) spoke of the advantages of associate membership, showing that the associate member of to-day has all the privileges of the regular graduate excepting that of holding certain elective offices. On motion of Secretary Fay it was unanimously voted that the publication of THE TECHNOLOGY REVIEW

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be transferred to the Alumni Association, and on the motion of Professor Allen it was voted that the Association of Class Secretaries assume the financial responsibility of the January REVIEW to an amount not exceeding one thousand dollars. On motion of Professor Allen the thanks of the Association were extended by unanimous vote to Mr. Munroe for his services in connection with the publication of THE TECHNOLOGY REVIEW from its beginning to the present time.

The plans for the Technology Reunion, 1909, were discussed, and F. G. Stantial ('79), suggested the need of a music director to coach the alumni and undergraduates in singing. The chairman appointed a committee to take this matter in hand and to confer with the Reunion Committee in regard to it. The committee appointed was Mr. Stantial ('79), Professor Mott ('89), and Maurice R. Scharff ('09).

THE TECHNOLOGY CLUB OF PUGET SOUND.—On Friday evening, November 20, a dozen Technology men met at an informal dinner at Seattle, Wash., to greet Dean Alfred E. Burton and renew allegiance to Technology. The Dean told us of the great advances that the Institute has made, and outlined the plans for the Reunion of 1909, which, we understand, is to be the best ever. To some of us, who have not had fresh news from the Institute for several years, the description of the new plans for athletics and the provisions for student welfare were good to hear. During the evening the Technology Club of Puget Sound was formed with the following officers: president, Frank Dabney ('75), Seattle; secretary, Medorem W. Greer ('91), Tacoma. It was agreed to have at least two dinners each year for the promotion of good fellowship among Tech men in the Puget Sound district, and the stimulation of Technology spirit.

Those present at the dinner were: Dean Burton, Boston; Frank Dabney, L. T. Bushnell, Q. P. Emery, R. L. Rice, W. S. Matheson, Nahum C. Willey, David W. Phipps, B. C. Mooers, B. R. Grant, and L. A. Wallon, from Seattle; J. R. Morse and M. W. Greer, from Tacoma. There are at least thirty odd Tech men in this vicinity who will undoubtedly join the Association.

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The secretary's address is 952 Commerce Street, Tacoma, and any visiting Tech man is urged to let the secretary know of his whereabouts, if he is in our vicinity. The Technology Club of Puget Sound wishes to congratulate the Institute on obtaining President Maclaurin, and wishes him God-speed in his work.—*M. W. Greer* ('91), *Secretary.*

CINCINNATI M. I. T. CLUB.—At the meeting of this club held June 17 the following officers were elected: president, Rudolph Tietig ('98); vice-president, Stephen H. Wilder ('74); treasurer, William E. Brotherton ('73); secretary, H. F. Schaefer ('05). Executive committee: one year, Morten Carlisle ('90); two years, A. S. Prince ('05); three years, Stewart Miller ('06).

This club usually has one annual meeting, which is sometimes held during the first week in February. We have informal meetings every Tuesday at 12.15 A.M., at which time several members gather at the Bismarck Café and take lunch together. We hope to have several members at the grand Reunion in June, although it is a little early to tell just how many.—*H. F. Schaefer* ('05), *Secretary.*

WASHINGTON SOCIETY OF THE M. I. T.—The Washington Society will meet monthly during the winter, on the fourth Monday of the month, at the University Club, 930 16th Street, N.W. The secretary is Arthur Cutts Willard ('04), 2204 Decatur Place, Washington, D.C.

The Washington Society will take an active interest in the 1909 Reunion, and special care will be taken to have all the men go that can. At least one of our monthly meetings will be devoted to the consideration of the June Reunion.—*A. C. Willard* ('04), *Secretary.*

TECHNOLOGY CLUB OF HARTFORD.—On November 28, about 25 members enjoyed a very pleasant evening at the Heublein, listening to a description of the new silent fire-arm invented by Hiram P. Maxim ('86). Mr. Maxim had about a dozen rifles of various kinds, both American and foreign, to which the silencer was attached when the demonstrations were given during the evening. The experiments that were made were perfectly satisfactory. There was no

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noise of explosion, the whistle of the bullet through the air and the thud of impact being the only audible sounds. Without the muffler the noise was deafening.

It is the intention of this club to hold monthly meetings during the winter on the first or second Saturday of the month. The annual meeting of the club will be held in February. The secretary's address is 50 Highland Street, Hartford, Conn.—*George W. Baker* ('92), *Secretary.*

M. I. T. Club of Central New York.—On November 17 the second annual meeting of the club was held at the University Club in the form of a smoker. The various late bulletins and letters from the Institute were read and discussed with great interest. Considerable enthusiasm over the 1909 general Reunion was shown, and there is little doubt that the club will be well represented on that occasion.

Our plans for the year are as follows: the annual meeting is held on the second Monday in November, with the midwinter banquet coming during the mid-year vacation in order to bring the undergraduates into contact with the older men. It is the intention to hold informal gatherings every other month at the homes of the members.

At the last annual meeting the following officers were elected for the ensuing year: president, W. E. Hopton ('91); vice-president, F. D. Ingalls ('01); secretary-treasurer, Ernest M. Smith ('06), 1615 West Greene Street, Syracuse, N.Y.; executive committee, H. W. Jordan ('91), J. C. Baker ('05).

We are all very anxious to keep in close touch with the Institute activities, and especially so at this time, when such vital questions are being decided as may determine the future welfare of Technology.—*Ernest M. Smith* ('06), *Secretary-treasurer.*

The Technology Club of New York.—Events of interest and importance have marked the last three months.

The season opened with an evening devoted to '08 men, who were welcomed by members of the club at a bowling party.

In October a special meeting was held for the threefold purpose

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of changing the number of governors from five to ten, of permitting the election of five governors chosen one in each year for terms of five years from assigned classes and five governors chosen annually for one-year terms from the membership at large; and of facilitating amendments to the constitution. These changes were almost unanimously adopted, and, as a result, the work of the club will be shared by more men, the board of governors will be more responsive to the desires of the majority of the members, and the responsibility for the success of the club is placed upon all Tech men in New York.

At a smoker on December 5 at our present modest club-house, Mr. George A. Orrok ('89), mechanical engineer with the New York Edison Company, gave a very interesting talk on "The Romance of Engineering," and showed the important part that imagination has taken in engineering achievements.

Plans are in progress for the annual dinner in February, and this year we are looking forward to the presence of our distinguished new President of the Institute. Meanwhile we hope to receive many applications for membership, so that every Tech man in New York may meet him as a member of this club.—*William H. King* ('94), *Secretary*, 36 *East 28th Street, New York.*

TECHNOLOGY CLUB.—The Technology Club commenced its winter season with the club-house in excellent condition. During the summer the dining-room and common room were redecorated, and much-needed repairs to the common room furniture were made. A magazine rack has been placed in the small office on the second floor, and back numbers of magazines for the current year will be kept on file.

Three smoke talks have been held during the present season. On October 20 Mr. Seth K. Humphrey told, in his usual witty style, of his experiences in the Holy Land, and showed a fine collection of photographs taken on the trip. On November 6 Professor William C. Story, of Clark University, spoke interestingly of various types of mathematical puzzles. The talk was original, and was illustrated with numerous blackboard puzzles, card tricks, and feats of memory. On November 8 Mr. James B. Connolly entertained

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the largest audience of the season with a breezy description of his trip around Cape Horn with the battleship fleet.

Under the management of the new steward, Mr. Alfred Sydney, the dining-room has been much improved, and the increased patronage of the restaurant promises a successful season.—*Robert S. Williams, Secretary, 83 Newbury Street, Boston.*

TECHNOLOGY ASSOCIATION OF OREGON.—On the 19th of November last was organized at Portland, Ore., the Technology Association of Oregon. At that time Dean Burton was visiting in the Pacific North-west, attending the Educational Congress at Whitman College, Walla Walla, Wash., and the Tech men at Portland seized the opportunity to get together. This was the second time that the Tech men in this locality had ever been together. The only previous gathering had been in September, at which time the organizing of a permanent association was discussed and committees appointed for that purpose. At the Dean Burton dinner these committee reports were received, a constitution adopted, officers elected, and the youngest Tech alumni association started on its career. Mr. E. F. Lawrence ('01) was chosen president, and A. G. Labbé ('07), secretary and treasurer. These are the only officers of the association except an executive committee composed of W. B. Ayer ('82), S. G. Reed ('94), and B. R. Honeyman ('06).

The purpose of the association is to bring together the Tech men in and about Portland and promote the interests of the Institute in that locality. It is the intention to have at least one formal banquet each year, probably at the time of the annual meeting in May. The organization is too young as yet to have formulated any definite plan for meeting, but there will be held informal meetings and smokers from time to time. There are about twenty-five Tech men in Oregon, not including the undergraduates registered from there.

It was a great pleasure to the men so far removed from their Alma Mater to have Dean Burton with them and receive at first hand all the latest news of Tech's activities. Professor Burton's remarks were listened to with great interest. W. B. Ayer, E. F. Lawrence, and others made short remarks, and much Tech enthu-

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siasm was manifest. Before adjourning a telegram of congratulation was sent to Dr. Richard C. Maclaurin, recently chosen as President of the Institute.—*A. G. Labbé* ('07), *Secretary, Front and 17th Streets, Portland, Ore.*

THE TECHNOLOGY CLUB OF PHILADELPHIA.—The first fall meeting of the Technology Club of Philadelphia was held at the City Club on Saturday evening, November 7. An informal beefsteak dinner was served. Thirty members were present, representing classes all the way from '75 to '08. Professor Gummere, of Drexel Institute, who was a member of the Technology expedition to the Aleutian Islands, was to have been the guest of the evening, but, owing to a death in his family, he was unable to be present. Several of the members gave short talks on subjects connected with their work, and a general discussion followed.

It was with deep regret that the club received the resignation of President Daniell. Owing to continued ill-health, Mr. Daniell has found it necessary to leave this section of the country. For several years Mr. Daniell has been very closely associated with all the activities of the club, and his loss will be severely felt. The present officers of the club are: president, Frank H. Keisker ('97); secretary-treasurer, Percy E. Tillson ('06), 419 Y. M. C. A. Building; executive committee, Clayton W. Pike ('89), Harry P. Coddington ('95), Fred A. Hunnewell ('97), Edgar P. Trask ('99), Lewis A. Miller ('01), H. Le Roy Walker ('05).—The second meeting of the season of the Technology Club of Philadelphia was a smoker held at the T Square Club on Saturday evening, December 12. Twenty-five members were present. Light refreshments, both liquid and solid, were served. Letters from the alumni headquarters and from the REVIEW concerning the approaching All-Technology Reunion were read, and the indications were that a large delegation from the Philadelphia Club would attend, as over half of the members who were present signified their intention of getting back to civilization on that occasion.

Mr. Ernest Harrah ('04), of the Midvale Steel Company, presented a very interesting and instructive paper on the manufacture of car and locomotive wheels. He explained the preparation of

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the material, the construction, the merits and the defects of a large number of the wheels on the market. He covered the field in a very thorough manner, and brought out many interesting points concerning that branch of the steel industry.

The club will hold an informal dinner in the latter part of January, and after the dinner the annual business meeting and election of officers will take place.—*Percy E. Tillson, Secretary.*

Technology Association of Northern California.—Our meetings for the next six months are as follows: January 6, social evening, San Francisco; February 3, stag theatre party, Van Ness Theatre, San Francisco; March 4, dinner at Mattias', San Francisco; April 6, ladies' theatre party, McDonough Theatre, Oakland; May 1, annual dinner and business meeting at St. Francis Hotel, San Francisco.

The list of the officers is as follows: Charles Gilman Hyde ('96), president; Howard Coburn Blake ('06), secretary-treasurer, Berkeley, Cal.; William E. Leland ('91), Ernest A. Hersam ('91), Oscar Charles Merrill ('05), executive committee.

At our last dinner, held at the Heidelberg Inn, San Francisco, on November 18, we were thirty strong, and spent a very enjoyable evening.

President Hyde spoke generally on Technology topics. The secretary read several letters from The Technology Review, the Alumni Association, Professor Noyes, and the Oregon and Southern California Associations. A telegram was sent our new president, assuring him of our hearty co-operation. One was also sent to our new association in Oregon, and one to Dean Burton, then at Portland, urging him to visit San Francisco. The evening closed with songs and short talks from different members. Mr. Marcus ('03), told of the Oregon Association, Mr. Adams ('78), followed with a story of the First Reunion in the West, Mr. Jones ('09), gave us a late word from the Institute which preceded a discussion of a Ladies' Night, during which discussion Messrs. Frazer ('05), Leland ('91), Pearse ('01), Ferry ('03), all told how necessary it was. The evening closed with a resolution of good will to Professor Maclaurin and short speeches by Messrs. Colmesnil and Reid.

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The following week the executive committee met, and drew up a set of resolutions to our new president and planned the calendar for the coming six months. Each member will shortly receive a list of the membership, addresses, and a copy of the calendar of the association for the coming year.—*H. C. Blake, Secretary-treasurer.*

TECHNOLOGY CLUB OF SOUTHERN CALIFORNIA.—Under the date of December 5, W. T. Knowlton ('93), president of the club, writes from Los Angeles as follows: "We hold our annual meeting tonight of the Technology Club of Southern California on the top of Mount Wilson (as Tech men are aspiring to reach the summit), where Professor George E. Hale ('90) will entertain us at the hotel with a banquet, followed by a lecture, illustrated by stereopticon, on the largest telescope of the day, which we will examine at the Mount Wilson observatory. Professor Hale is in charge of this Carnegie station, and he has just got things in place. Leaving Los Angeles at noon, we go to Sierra Madre by electrics, where we take animals and ride to the summit, a nine-mile trail. Some twenty-four fellows will make up the party, which will return the next day, and I think the trip will be one we shall remember with pleasure. The Technology Club of Southern California has a membership of between forty and fifty, and is growing fast. It includes several representatives of classes in the sixties, seventies, and eighties, so that it is not dependent upon the younger men alone for encouragement. The New England College Club was formed two weeks ago in Los Angeles, all the New England colleges except Harvard and Yale being on the list. Monthly luncheons will be held to promote acquaintance and to foster a college spirit. Upon the executive committee of this new club the Technology Club is represented by its president."

NORTH-WESTERN ASSOCIATION OF MASS. INST. TECH.—The present officers are: John L. Shortall, president, '87; Richard E. Schmidt, vice-president, '87; Ernest Woodyatt, secretary and treasurer, '97, 1615 Ashland Block, Chicago, Ill. The executive committee consists of above-named officers, together with Frederick K. Copeland, Dr. Mortimer Frank, Samuel D. Flood, and Edward M. Hagar.

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It has been the custom of this association to hold an annual banquet during the latter part of February in each year, and it is now contemplated to hold such a banquet some time in February next, the exact date not yet being set, but will doubtless be soon agreed upon; and arrangements to make the banquet a success are now under way.

During the year informal suppers and meetings are held, at such times and for such purposes as the executive committee deems advisable. Since the last annual banquet there have been two informal suppers, one being held last June, at the South Shore Country Club,—beautifully located on Lake Michigan, just south of Jackson Park,—where the afternoon was spent in outdoor games, and supper was served in the club-house in the evening. It was a jolly affair and greatly enjoyed, about forty-two men being in attendance.

On Saturday evening, Nov. 28, 1908, there was an informal supper given, at the University Club in this city, at which the president, Mr. John L. Shortall, presided. He gave a full account of his recent visit to the Tech Union while in Boston, and described it and told what it was accomplishing for the students. Mr. Frederick K. Copeland spoke very interestingly, his subject being "The New President of the Massachusetts Institute of Technology." Mr. Theodore W. Robinson spoke with his usual candor and effectiveness, his subject being "The Duties of Alumni"; and several other good stirring addresses were made by various members of our association. The music was furnished by "Johnny" Hand's Orchestra of seven pieces, including the big bass drum. Old college songs were sung with great enthusiasm, and the meeting was a rousing success. At this meeting it was urged that our alumni out here subscribe for THE TECHNOLOGY REVIEW and *The Tech*. We believe that, if the officers of *The Tech* should make an effort to reach the alumni throughout the country, they would be able to interest them to the point of subscribing for that very excellent publication. THE TECHNOLOGY REVIEW seems to be making that effort.

It has been concluded that we shall not be able to arrange to have

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the Glee Club come here this year, but possibly in another year such arrangements may be made.

Any former Tech student is eligible to membership in the Northwestern Association by making application to any of the officers of our association, and paying to the secretary-treasurer the annual dues of $2 for resident membership and of $1 for non-resident membership.

The officers of our association invite all Tech students to feel that they are welcome at our banquets and gatherings, and urge them to join our association, if they can conveniently attend our meetings, and to co-operate with us in keeping our directory up to date by furnishing us with their own names and addresses and the names and addresses of other Tech students who should be, but are not, members.—*E. Woodyatt, Secretary.*

Technology Club of New Bedford.—Twenty-one Tech men, including Acting President Noyes, sat down to the annual dinner of the Technology Club of New Bedford at the Wamsutta Club on Friday evening, December 11. President S. C. Hathaway presided, and after a short talk by Charles F. Lawton on Present Needs of the Institute as Seen by an Old Graduate, President Noyes was introduced, and gave an interesting discourse on what was being done at Tech and on the new President. Charles R. Allen also gave a short talk on the new Industrial High School, of which he has just been elected master. The dinner was concluded with a rousing Tech yell.—*Charles F. Wing, Jr., Secretary.*

Technology Club of Central Pennsylvania.—The second annual dinner of the Technology Club of Central Pennsylvania was held on Saturday evening, December 12, in the assembly room of the Engineers' Club in Harrisburg, Pa.

Before the dinner a short business meeting was held, with Mr. L. E. Johnson ('89) in the chair. Nominations for the new president were then made, and Mr. Frank A. Robbins, Jr. ('02), was unanimously elected.

The following new members were then elected: Henry V. Spurr, Uldric Thompson, Jr., Harry S. Percival, Ralph E. Irwin.

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At seven o'clock the meeting was adjourned to the dining-room, where the following men sat down to a "turkey dinner": George P. Vanier ('85), L. E. Johnson ('89), J. W. Campbell ('96), Stephen Badlam ('00), John R. Brownell ('01), E. L. Chapman ('01), Farley Gannett ('02), Paul Hooker ('02), Frank A. Robbins, Jr. ('02), Harry S. Percival ('05), R. V. McKay ('06), F. E. Langenheim ('07), Henry V. Spurr ('08), Ralph E. Irwin ('09), Uldric Thompson, Jr. ('09).

During the dinner several toasts were drunk to "Old M. I. T," "the new President," "the Classes," and to "Mrs. King, God bless her!" After the dinner K. I. Grant ('02) joined the party, and the rest of the evening was spent with Tech songs, and ended with a rousing M. I. T. yell.—*Stephen Badlam, Secretary, Steelton, Pa.*

THE PITTSBURG ASSOCIATION OF THE MASS. INST. OF TECH.—Although the Pittsburg district has passed through a most severe financial ordeal during the past year, the Pittsburg Association has not suffered because of lack of interest, and is making preparations for a year of largely increased usefulness.

We are making arrangements for an informal smoker in January, and are looking forward to our annual dinner in February, when arrangements will be made for the Technology Reunion in June. The dinner will probably take place during the second week in February. During the course of the year there will be several informal meetings, and all Tech men of this vicinity are cordially invited to communicate with the secretary, so that notices may be sent.

The officers are: L. K. Yoder ('95), president; S. B. Ely ('92), vice-president; Waldso Turner ('05), secretary-treasurer, 1174 Frick Building Annex; W. I. Bickford ('01), and C. S. Robinson, ('84), executive committee.—*Waldso Turner, Secretary-treasurer.*

ALUMNI ASSOCIATION OF THE M. I. T.—On October 10 the nominating committee of the Association reported the following names for officers and for term members of the Corporation: for president, Edwin S. Webster ('88); vice-president, Frank E. Shep-

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hard ('87); secretary, Walter Humphreys ('97); executive committee, William S. Johnson ('89), and Charles F. Park ('92); nominating committee, Harry W. Tyler ('84), Edward H. Huxley ('95), and Frederick H. Hunter ('02); committee on school, Linwood O. Towne ('78); trustee of the alumni fund and of the life membership fund, James P. Munroe ('82); advisory council on athletics, Frank H. Briggs ('81); for term members of the Corporation, Walter B. Snow ('82), Theodore W. Robinson ('84), Charles R. Richards ('85), Hollis French ('89), George C. Whipple ('89), James Swan ('91), William H. King, ('94), E. Laurence Hurd ('95).

Interesting Figures of Registration

The number of students this year is again larger than that of the previous year: it is 1462, a gain of more than fifty. The first-year class is larger, and there is a marked increase in the number of students from other colleges, both graduates and non-graduates. The per cent. of the new students who have studied elsewhere is twenty-nine. The students graduated from other colleges before entering the Institute represent ninety-one colleges or universities. While last year 20 per cent. of the students admitted on examination did not register, this year only 12.5 per cent. failed to enter.

All but two states and three territories of the Union send students to the Institute. The seventy-two foreign students come from thirty different countries. The largest representation from any one foreign country is ten students from China. Ten years ago there were but twenty-seven foreign students from thirteen countries. Only the north central group of states have fewer students than last year, as there is a gain in the numbers from the north Atlantic, the south Atlantic, the south central and the western states.

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NEWS FROM THE DEPARTMENTS

Architectural Students Honored—Advances in the Physics, Chemical and Electrical Engineering Departments

DEPARTMENT OF ARCHITECTURE.—Of the four men from the colleges of the country who qualified for the Roman prize in architecture of the American Academy, three are from the Institute of Technology. The other is from the University of Pennsylvania architectural department.

The three men are Edgar I. Williams, W. Frederic Dolke, Jr., and Cecil F. Baker. The successful candidate from Pennsylvania is Roy Childs Jones.

The Technology men are graduate students, Baker having taken his bachelor's degree in 1907 and the two others graduating last year. They will spend the rest of the present term in preparing their final plans, following the outline of the fourteen-hour sketch problem already handed in. The final plans are to be in color.

The schools of architecture represented in the competition are Harvard, Columbia, Massachusetts Institute of Technology, University of Pennsylvania, George Washington University (Washington, D.C.), Cornell, University of California, Washington University (St. Louis, Mo.), and the University of Illinois. Graduates of the School of Fine Arts in Paris were also eligible.

The American Academy in Rome was chartered by the State of New York in 1897. It maintains a course of study in Rome, sending students over from this country. Music, painting, sculpture and architecture are the subjects taken up. The latter department was started only two years ago. Last year this scholarship was awarded to a Technology man, Ernest Lewis.

Besides the scholarship at the academy each beneficiary is allowed $1,000 each year for three years, and is also allowed travelling

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expenses to and from the Italian capital. Eight months of each year are spent in study at Rome, and the remaining four are spent in an annual term of travel.

The Committee on Architecture which judged the competition was composed of William M. Kendall, S. Breck Trowbridge (chairman), Samuel Chester French, Edward H. Blashfield, and Frank Niles Day. The officers of the Academy Association are: president, Charles Follen McKim; vice-president, Theodore N. Ely; secretary, Francis D. Millet; director, George W. Beck.

The problem was a building for the academy in Rome, supposing a frontage of five hundred feet, an administration building and studios were called for.

DEPARTMENT OF PHYSICS.—Mr. Faxon, of the Department, has succeeded in so mounting the Kohl apparatus that the Cavendish experiment can be shown in the physical lecture-room under favorable conditions. In the apparatus used, a modification of that of Boys, attraction is exerted between two lead spheres each about four inches in diameter and two small silver spheres carried at the ends of an arm suspended by a quartz filament. A ray of light is reflected upon the screen from a mirror attached to the arm, and the motion of this ray when the filament is twisted by the mutual attraction of the masses is readily seen. The effective pull on each of the small spheres is only one five hundred millionth of a gram. The needed steadiness is secured by placing the movable system on a Julius suspension.

Many valuable acquisitions of physical apparatus have been received during the past few months.

Among these should be particularly mentioned the gift from Dr. William Rollins of a large Tolles microscope, a magnificent instrument, with objectives and accessories, and also of a powerful "Geryk" air-pump.

Of the general physical apparatus purchased, the following pieces are especially worthy of note:—

From Goetze. of Leipzig, a collection of spectrum tubes of new patterns for use in the laboratory and lectures, and also a considerable number of new Crookes tubes for the study of electrical

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phenomena in high vacua. From Ernecke, of Berlin, a large Lecher apparatus for the demonstration of stationary electric waves; and a simple form of Wheatstone's wave apparatus for illustrating the mechanical combination of waves in rectangular planes. From Kohl, of Chemnitz, a Zamboni dry pile of 6,000 elements; a Schaik resonance top; a balanced double gyroscope; an electrical interrupter fork of variable pitch and a variable fork with resonator, driven by the same, which illustrate very beautifully the struggle between free and forced vibrations; a new battery of very large and stout Leyden jars. From the Zeiss Company, of Jena, a *verant*, which is a device for properly viewing a photograph so as to exhibit it to the eye under proper optical conditions of perspective. From Griffin & Sons, London, a Rutherford electroscope for use in connection with the study of radio-activity.

There has been constructed in the Department workshop a vibrating projecting oscillograph, devised by Professor Derr for class demonstration, which operates in a very satisfactory manner, and also a reflectoscope for use with the lanterns habitually employed in the lecture-room.

A considerable additional number of astronomical slides taken from negatives made at the Yerkes Observatory has been purchased, and our large collection of color photographs has been increased by about forty lantern slides made by Professor Derr and presented by him to the Department, which illustrate the new Lumière and other processes. Besides pictures of ordinary objects these include micro-photographs in color, polarized light effects, and also some slides showing the limitations of various processes.

The Department has recently purchased from the income of the Katharine Bigelow Lowell bequest a very fine crystal reflectometer from the Zeiss Optical Company. This instrument not only permits of the accurate determination of the index of refraction of small crystals, but is so constructed that the index may be determined in any direction through the crystal, and thus the wave forms in doubly refracting crystals ascertained. The instrument is intended primarily for the instruction of students particularly interested in crystallography and for research work.

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In the Laboratory of Applied Electrochemistry it has been found necessary to increase the equipment of high temperature measuring instruments, as practically all experiments in electric furnace processes, as now arranged, call for a record of the temperature attained. The latest acquirement for this purpose is a Féry radiation pyrometer, which with a Wanner optical pyrometer and a number of thermoelectric pyrometers provides all the instruments needed at present. A new furnace designed for the production of carbides has been imported, and a Sturtevant crusher for preparing furnace charges.

To maintain the equipment for experimental work in chemical physics at the highest standard, the latest forms of Beckmann boiling and freezing point apparatus have been imported, as well as apparatus for the measurement of dielectric and critical constants.

An apparatus for making continuous records of temperatures has been installed in the Laboratory of Heat Measurements. This is a recording resistance pyrometer made by the Cambridge (England) Scientific Instrument Company, and is capable of recording temperatures from 200° up to 1,000° Centigrade, making a permanent ink record upon cross-section paper. It is especially adapted for a record of temperatures in operations in which it is desired to keep track hourly or daily of changes in temperature, and is also available for the recording of melting points, boiling points, and recalescence points, the results being more accurate and much easier to obtain than by the older method of individual readings with subsequent plottings. The instrument operates in virtue of the change in electrical resistance of platinum wire with change in temperature,—a principle whose development in the construction of pyrometers has been largely due to Callender and Griffiths. It is a gift to the laboratory from Professor Norton.

Chemistry and Chemical Engineering.—The Department has again outgrown its quarters, and has been obliged to convert the remaining portion of Room 26, Walker, the room at the front of the second floor, into a laboratory for analytical chemistry, connected with the larger laboratory for the same purpose on that floor, which is under the immediate charge of Dr. Thorp.

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This change became necessary in order to accommodate the students in analytical and organic chemistry. A considerable portion of the analytical laboratory on the top floor of the Walker Building is now used for organic laboratory work.

The newly organized Research Laboratory of Applied Chemistry is gaining headway. Dr. Wilhelm Guertler, former assistant to Professor Tammann at Göttingen, and Dr. W. K. Lewis (Course X., '05), who returned last summer from Breslau, are devoting their entire time to the research work, while Dr. Burns and Mr. A. T. Hinckley (Course V., '08), devote themselves in part to instruction and in part to research work. Dr. Walker, as director, holds weekly conferences and seminars, which are also attended by other members of the Department, and are proving helpful and interesting.

The equipment of the Industrial Laboratory has been increased by the addition of a down-draft melting furnace, made by the American Gas Furnace Company, which will make possible the undertaking of several new lines of thesis work, and will also prove serviceable in connection with the work of the Research Laboratory.

The Chemical Society of the Institute, the membership of which is made up of students in the second, third, and fourth years of the Courses V., VIII., option 3, and X., holds monthly meetings during the Institute year, except in January. The speakers this year have been Professor Talbot, on chemistry as a profession; Professor Woodman, on the pure food laws and their enforcement; and Professor Jennings, of Worcester Polytechnic Institute, on alchemy, past and present. In addition to these gatherings, which are properly controlled by the officers of the society with such assistance from the Department as may be desired, Professor Talbot has asked a few men who are active in pure or applied chemistry to speak to the students on topics of special interest to them. These gatherings are held after the close of the regular exercises in the afternoon. Dr. Bertram B. Boltwood, of Yale University, gave such a talk on Recent Developments in Radioactivity, on the 17th of December. Mr. M. C. Whitaker, of the Welsbach Com-

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pany, has promised to give a series of talks later in the year, and an effort is being made to secure other speakers.

Dr. Thorp is giving a series of lectures on Industrial Chemistry in connection with the Lowell Teachers' School of Science. This course was arranged for through the efforts of the New England Association of Chemistry Teachers, and is especially adapted to their needs.

Dr. Sherrill has not yet been able to resume his work at the Institute, but it is a pleasure to report excellent progress toward recovery of his strength, and it is expected that he will soon be able to resume active service. Professor G. N. Lewis is conducting the class-room exercises in Theoretical Chemistry, which were in Dr. Sherrill's charge, and Mr. R. C. Tolman is taking care of the laboratory work.

The Department should be well represented at the winter meeting at Baltimore of the American Association for the Advancement of Science and the American Chemical Society. Professor Lewis is Chairman of the Section of Physical Chemistry of the American Chemical Society, and will give an address on "The Use and Abuse of the Ionic Theory." Professor Talbot is chairman of the Section on the Education of Chemists, and, as retiring chairman of Section C of the Association, will give a short address on "Science Teaching as a Career." Dr. Lewis is also president of the North-eastern Section of the Chemical Society, having its headquarters in Boston. Dr. Walker has a prominent part in the Council of the recently formed Division of Industrial Chemistry and Chemical Engineers of the Chemical Society, of which Mr. A. D. Little is chairman. Drs. Noyes, Walker and Talbot are members of the Council of the Society, and the names of the following Institute men, including former students, are found on the preliminary list of papers: Professors Walker and Moore, and Messrs. Skinner, Olmsted, Arsem, Woodbridge, Washburn, Lind, Walton, Kraus, Bray, Mackay, and Mailey.

A part of the summer was spent by Mr. John A. Christie, of the third year of Course V., at the works of Harrison Brothers & Company, in continuance of the series of summer courses which they

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have offered for several years past. At the request of the company for an additional nomination of a second-year student to begin the course, Mr. G. P. Lunt, of Course X., was recommended by the Department, and he also spent a profitable season at Philadelphia.

Mr. Rolfe has been granted leave of absence for the remainder of the year to undertake the direction of the working up of the sugar crop at Aguirre, Porto Rico. He takes with him Mr. C. L. Lufkin (V., '08).

Professor Talbot has recently sent out a considerable number of letters to graduates and former students who were not associated with the American Chemical Society, in an effort to interest them in its work, and in connection with this letter a request was made for some personal word regarding themselves. A considerable number of responses have been received to this latter request, and the interest shown in the welfare of the Department, the warm personal greetings to its members, and the sketches of experiences since the closer associations necessarily ceased have been a source of much gratification to us all.

Electrical Engineering Department.—The first of the Electrical Engineering Society dinners for the present Institute year, in the series which has been heretofore described in The Technology Review, was held on the evening of Thursday, December 10, in the new Union. A very pleasant evening was passed with dining and singing and cheers. Mr. Louis A. Ferguson, Technology '88, and now president of the American Institute of Electrical Engineers, spoke to the students upon the subject of their ambitions and the way to direct their education. His speech was heartily applauded and cheered. The Technology cheer for Mr. Ferguson stirred him to give the cheer of the Electrical Engineering Society of his day in the Institute, and the evening ended in great enthusiasm. Mr. Ferguson, who is now vice-president of the Commonwealth Edison Company of Chicago, is one of the notable class of 1888 which turned out many well-known electrical engineers, including, besides Mr. Ferguson, Charles A. Stone, Edwin S. Webster, and Russell Robb of Stone & Webster, and others.

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A notably large number of young men studying electrical engineering at the Institute of Technology come from among the graduate students or students who have entered with advanced standing. Many of these students have pursued a course in arts or a course in general science elsewhere, and are spending two or three years in completing the electrical engineering course at the Institute of Technology; others have graduated from other engineering schools, and are spending one or two years in study at the Institute to get its baccalaureate degree; and several of particularly high preparation are pursuing advanced study and research for the purpose of obtaining the higher degrees of Master of Science in electrical engineering or Doctor of Engineering.

It is probable that the latter students, who are occupied in advanced study and research, are enjoying the first regularly organized work in this country leading to the degree of Doctor of Engineering. That degree has heretofore been conferred by American engineering schools as an honorary distinction, but it has not in this country been used among the degrees to be secured by study and research in the schools. Brilliant work has been done by students studying for this degree in the great polytechnic schools at Berlin and Carlsruhe, Germany, and it is hoped that work of this nature in the Electrical Engineering Department of the Institute will become popular with electrical students of the highest ability and that it may become influential in stimulating a larger spirit of engineering research.

The undergraduate electrical engineering course has a senior class about 20 per cent. larger this year than last year, and the Department will soon be a candidate for larger quarters. The laboratory quarters of the Department are large, and they are impressive in their equipment, but even they are becoming overcrowded, and additional class-rooms are much needed. One of the sore needs of the Department is to have one or two class-rooms which are assigned solely to its use, so that problem sections and quiz sections may be made up at the convenience of students and instructors for the purpose of more distinctly vitalizing the problem instruction and allied instruction. At the present time the Department does

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not have a single class-room which is assigned to its own use, and the convenience and effectiveness of its teaching must therefore be subordinated to the schedule of class hours in which class-rooms may be available.

MINING DEPARTMENT.—We have put in a Callow settling tank for clarifying the water used in our concentrating work. We have a new compressor to give us compressed air for various purposes, running rock drills or combustion. We have a new soft coal muffle furnace for doing the lead assay in the crucible after the manner adopted in many western plants. We have a new sample crusher and a new disc grinder for grinding samples. We have a new arrangement of flues to give greater efficiency to our reverberatory furnaces. We have ordered new triplex rolls from Denver for fine crushing. We have received a Pierce amalgamator, which is one of the latest and best amalgamating devices. We have the Hendryx agitating tank for cyanide and the agitating tank for dissolving copper, both of which are in the front rank of modern improvements.

DEPARTMENT OF ENGLISH.—In a freshman class smaller and more capable than the average, Professor Pearson is carrying out a novel exercise in writing English,—a newspaper, the *Freshman Enterprise*, issued once a week, edited and entirely written by members of the class, and distributed to them in neostyled copies. For each issue three students are appointed editors. Every other student has to hand in at least four hundred words, either of news items or editorial matter, or a letter to the editors. From this matter, pseudonymously presented, the editorial board selects material, about fifteen hundred words in volume, which it arranges in the form of a newspaper. Each issue is, after distribution, criticised in class.

The issues were at first deficient chiefly in news paragraphs, but the material of this sort was later more developed; and in the last number appeared an article on the Prize Drill expressing the ideas of Major Wheeler, who was especially interviewed for the purpose by an *Enterprise* reporter. Similarly, interesting items were gleaned from the December Bulletin, upon statistics of regis-

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tration. Expressions of opinion, both in editorial form and in correspondence, were numerous and varied, including protest about inadequate lockers, criticism of depraved commercialism in that "esteemed contemporary," *The Tech*, appeals for a 'varsity baseball team and a Tech orchestra.

As an exercise in English writing, the paper is interesting because it concerns a wide variety of subjects, in all of which students should be naturally and vitally interested. Such a publication, too, provides for the writer a very definite audience, to which he has to adjust his material with tact and effectiveness. Further, each student submits his writing to the judgment not of an academic superior, but of his equals, and his material, as well as their judgment in selection, is subsequently discussed by the body of readers whom especially it was intended to inform and persuade.

CHRISTMAS FESTIVITIES AT THE UNION

The social hall of the Tech Union was a brilliant spectacle on Christmas Eve when Dr. Noyes, the Acting President, gave a reception to the students who remained in Boston during the Christmas vacation. The room was trimmed with Christmas greens, and a handsomely decorated Christmas tree was provided. Professor Arlo Bates rendered Dickens's own shortened reading of "The Christmas Carol," and the Yule log was brought in by four sturdy undergraduates and placed in the great fireplace, while the Tech quartette sang Robert Herrick's "Song for the Yule Log." After the presentation of the gifts the quartette appeared, bearing on their shoulders an enormous wassail bowl, filled to the brim, chanting the "Wassail Song," which is taken from "Kynge Johan," 1550, the oldest wassail song known. The Tech orchestra and Glee Club furnished music. There were about two hundred present.

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WHAT THE INCOME FUND IS DOING

The appropriations from the Income Fund by the Executive Committee of the Corporation during the year ending Sept. 30, 1908, are given below:—

For one-half the cost of erecting and equipping the new Technology Union	$8,500
For installing new boilers and improving the heating and power plant	9,750
For fittings and installation of the new steam turbine	2,690
For steel testing machine for Mechanical Engineering Laboratory,	500
For equipment of the extension of the Laboratory of Analytical Chemistry	650
For maintenance and improvement of athletic field	1,600
For providing for personal conferences between first-year students and instructors	1,600
For increase of salaries of the instructing staff	16,600
Total	$41,890

The power plant referred to is said to be the best-arranged plant in New England. Those familiar with the old plant, or rather plants, will welcome this needed improvement. Donors to the Income Fund who have any close knowledge of the grand work that the new Union is doing for the students will be gratified to know that without this gift the Union could not, in all probability, have been built at this time.

On March 20, 1908, President Noyes delivered to the instructing staff a talk on Teaching which, by reason of its comprehensive statement of the ideals of instruction of a scientific school, is a contribution not only of permanent value to teachers, but of general interest to Technology alumni. It was published in *Science* November 13.

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PROFESSORS' SALARIES

The last bulletin of the Carnegie Foundation for the Advancement of Teaching is devoted to a very interesting discussion of the financial status of the professor in America and in Germany. A table is given of 103 institutions which spend more than $45,000 per year for salaries to the instructing staff,—such a list naturally including the principal colleges and universities of the country. The order of the institutions in the scale of total salaries is: Columbia, $1,100,000; Harvard, $842,000; Chicago, $699,000; and so on,—the Institute coming fourteenth in the list with $301,000, between Princeton with $309,000 and Minnesota with $263,000. Of the thirteen institutions which precede the Institute, all but Princeton have a considerably larger number of students. No one of these thirteen institutions has so large a proportion of teachers to undergraduate students,—more than one to seven,—while in the whole table of 103 colleges and universities this proportion is exceeded only by McGill, Johns Hopkins, Clark, Temple, and Haverford. If for the fourteen institutions we divide the total appropriation for salaries by the number of undergraduate students, Columbia University spends for salaries $280 per student; Princeton, $235; Stanford, $220; the Institute, $215; Harvard, $210, etc.

The average salary of a professor at the Institute is not quite $3,200: the average age of reaching that grade is thirty-eight. The average salaries for other faculty grades are: associate professor, $2,100; assistant professor, $1,650. The average salary of the full professor at the College of the City of New York is nearly $4,800; at Harvard, $4,400; at Columbia, $4,300; at Stanford, $4,000; at Chicago and Toronto, $3,600; at Yale, Pennsylvania, and New York, $3,500; at Haverford, $3,400; at Rensselaer, California, and Northwestern, $3,300; at Stevens and Johns Hopkins, $3,200. Fifteen institutions announce maximum salaries of from $4,500 upward, the Institute being classed with those for which the maximum is between $3,500 and $4,500.

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NEW YORK CLUB-HOUSE LIKELY

In November a carefully compiled prospectus of a proposed joint club-house for alumni of Technology, Amherst, Brown, Dartmouth, Wesleyan, and Williams, was issued by the joint committee of which Allston Sargent (Tech '98) is chairman. The plan, briefly, is to form a "College Clubs' Building Company" to take title to and operate a suitable building purchased with the approval of the joint building committee. The company is to obtain $72,000 cash in hand to start operations, from subscriptions to ten-year bonds issued in denominations of $100 and of $50, the alumni of each college to subscribe $12,000. The bonds are to be secured by mortgage on the property. Each club would have the use of the general rooms and conveniences and exclusive use of club-rooms by rental for ten years, guaranteeing to the company at least $4,000 per annum. The building would contain not less than sixty bedrooms, some for transients at $2 per day, and the others single bedrooms at $20 to $40 per month and double bedrooms $40 to $50. Dues of resident members would be $20; junior members graduating within four years, $12; and non-resident members, $10. Subscriptions to the bonds are now being received by the college committees, to be cancelled if no building is purchased before May 1, 1909. The finances have been accurately estimated, and the plan affords a present opportunity to secure for the alumni of each college a modern club-house. This result depends only upon prompt subscriptions to bonds and the support of alumni through membership in their respective clubs. Success seems assured.

As a stimulus to track athletics, two cups have been offered, one by Dr. J. Arnold Rockwell ('96), for the quarter-mile event, and the other by John L. Batchelder, Jr. ('90), for the mile run. These cups become the property of the winners, cups being offered each year by the donors.

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COMPARATIVE GEOGRAPHICAL STATISTICS

Science for October 30 contains a tabulation of the students attending twenty universities and colleges, and two technological schools, with reference to their geographical antecedents. It is interesting to observe that for Massachusetts students Harvard stands first, the Institute second, Dartmouth third. For foreign students from other parts of North America, Harvard leads with 60, followed by Columbia with 59, Pennsylvania with 58, Cornell with 37, Michigan with 31, the Institute with 28. Among South Americans the Institute with 10 is exceeded by Pennsylvania with 37, Cornell with 32, Columbia and Ohio with 11 each. Of Europeans we have, like Yale, 17, Pennsylvania leads with 50, followed by Columbia with 48, Harvard with 28, and Cornell with 19. Asia is represented by 53 students at Columbia, 51 at Cornell, 42 at Yale, 40 at Harvard, 36 at California, 25 at Pennsylvania, 18 at Illinois, 17 at Ohio, 16 at Wisconsin, 15 at the Institute. From Africa there are 7 at the Institute, 4 at Harvard, 2 at Yale, 1 in each of four other institutions. Of the Australasians a great majority—45—attend the University of Pennsylvania: of the others, numbering only 20 in all, 3 are at the Institute. Our total number from foreign countries—80—is exceeded by Pennsylvania with 216, Columbia with 173, Cornell with 143, Harvard with 142, and Yale with 89.

The recent growth of the great state universities seems not to have prevented a gradual increase of western students at the eastern colleges. It is interesting to note that the percentages of students from the home state are in particular cases as follows:—

California	93	Columbia	62
Illinois	83	Cornell	54
Michigan	53	Harvard	52
Missouri	83	Pennsylvania	67
Ohio	91	M. I. T.	55
Wisconsin	81		

in which the general disparity between the eastern and the western institutions is marked. H. W. T.

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GENERAL INSTITUTE NEWS

A New Technology—Dr. Noyes's Strong Plea for Greater Things—Dr. Maclaurin's Visit

PRESIDENT'S ANNUAL REPORT.—At the stated meeting of the Corporation of the Massachusetts Institute of Technology, held December 9, Dr. Arthur A. Noyes, the Acting President, made his annual report. Dr. Noyes's report is, in part, as follows:—

"The large increase in the registration figures naturally raises the question whether a limitation should be placed upon the number of our students. My own opinion is that it should be the permanent policy of the Institute to receive and provide for all those capable and well-prepared students who desire to avail themselves of the opportunities it offers. It is not justifiable to raise the standard to the point of demanding extraordinary scholarly attainments, since other qualities than scholarship take an important part in determining the success of a professional or scientific career. The Faculty and staff of instruction must therefore face resolutely the problem of teaching large classes effectively; administrative officers must see that the character and organization of the staff is such as is adapted to this end; and the Corporation and alumni must aim to secure the resources which will provide sufficient facilities in the way of class-rooms, laboratories, and equipment, and will make possible the payment of adequate salaries, such as will retain sufficient teachers.

"This last factor—the financial resources of the institution—is, however, the crucial one. But until additional accommodations can be provided, and until increased funds for this purpose and for current expenses have been secured, it would be a serious mistake to permit the number of students to increase much beyond the present registration.

"From the standpoint of our general system of instruction the

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two most important developments of the past year have been the much fuller provision made for advanced courses of study to the higher degrees of master of science, doctor of philosophy, and doctor of engineering, and the more definite organization of five-year undergraduate courses leading to the bachelor's degree. These latter are of three types. In one the student supplements the required four-year courses with the equivalent of an extra year's study in academic and scientific lines. In a second provision is made for those students who wish to secure a training in two allied branches of study, such as electrical and mechanical engineering. The third provides for the distribution of the work of the last three years of the regular four-year course over a period of four years, affording an opportunity for the devotion of a greater amount of time to outside study or practice.

"I must not fail to emphasize the seriously crowded condition of our present quarters, even though it is a time-worn topic of college presidents.

"The situation is one that requires radical treatment, for conditions throughout the whole Institute are cramped for lack of proper room in which to develop.

"It should be realized that we are now facing the logical results of a changing plan of development, which has made it imperative that the whole Institute be rebuilt upon a permanent basis, and upon a new site, better adapted to its needs.

"Though no definite action in this direction has been taken by the body of the Corporation or by the committee on the site which you have appointed, yet I believe that during the past year, through informal discussion and individual consideration of the matter, there has grown up not only among your own members, but among the other groups connected with the Institute,—the Faculty, alumni, and student body,—a sentiment so strong that it will be satisfied with nothing less than the creation of a new Institute on a new site.

"Although the physical condition of the Institute is, as I have indicated, one that makes impossible further growth or a development of its work in new directions, and one that does in some

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measure impair the efficiency of our present instruction, I should be sorry to give you the impression that the latter effect is of a very serious character. Equipment for lecture and laboratory work is another physical factor of at least equal significance, and on this side the Institute, taken as a whole, is extraordinarily well provided for.

"Through the opening of the new Technology Union in the building erected on Trinity Place during the past summer, a most important step has been taken in the development of the social life of our students. The new Union was made possible mainly through the interest and efforts of the Committee on the Welfare of Students appointed by the Corporation last March, and through the generous donations of individual members of this body, which provided for a large part of the expense involved.

"The control of the Union has been placed in charge of a committee of nine members, of whom a majority are undergraduate students elected by the Institute Committee. There have also been elected by the students three sub-committees to take charge of different sides of the Union's activities.

"The admirable spirit of our students, manifested not only in connection with this Union, but in many other ways, is, I believe, one which can be matched at few, if any other colleges.

"The relations of the Institute to the secondary schools deserve constant attention. Owing to the fact that by far the larger number of teachers in the high schools have received an academic rather than a scientific training, owing to the undue development in this section of the country of the sentiment that a more effective education is secured under the collegiate plan than under that followed by even the best scientific schools, and owing to the failure to appreciate that the social and physical sides of student life are developed at the Institute upon a sounder basis and in better-proportioned measure than at most of the colleges, the advantages of our system of education and the opportunities afforded by the scientific professions in general are not sufficiently understood by boys in the preparatory schools nor by their teachers and parents. There is, therefore, a need in this community of better informing the public

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in regard to this matter, not so much because the interests of the Institute are involved as because it is important that both types of educational effort be duly appreciated.

"There are also important relations to be maintained with the general public. The public should be kept informed, through the press and otherwise, of the activities of the Institute; and all those industrial, commercial, and transportation interests should be made to feel that the Institute stands ready to place at their service its staff and its laboratory facilities.

"With the state the Institute naturally stands in intimate relations. Without sacrificing its national scope or its own independence, it should constantly strive to serve the state in every possible way,—in the development of its natural resources, the improvement of its industrial processes and its transportation facilities, and especially in the solution of its educational problems. In closing this report, I would emphasize, as the watchwords of our future progress, the ideas of co-operation and closer relationships. If there be also shown an implicit confidence in the soundness of our educational system and in its support by the community, its proper growth and development will be assured."

HONORARY DEGREES.—The degree of Doctor of Laws has been conferred upon Professor Robert H. Richards by the University of Missouri in recognition of the distinguished services rendered by him in promoting the science and practice of mining engineering. A similar honor was conferred upon Professor George F. Swain a little more than a year ago by the University of New York, in recognition of his expert knowledge and high accomplishment in the field of civil engineering.

CHANGES IN THE FACULTY.—Eight instructors, whose successful work has won recognition, have been promoted to assistant professorships. These newly appointed members are: Charles W. Berry, Assistant Professor of Mechanical Drawing; Arthur A. Blanchard, Assistant Professor of Inorganic Chemistry; Harry C. Bradley, Assistant Professor of Drawing and Descriptive Geometry; Harrison W. Hayward, Assistant Professor of Applied Mechanics; Ervin

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Kenison, Assistant Professor of Drawing and Descriptive Geometry; Joseph C. Riley, Assistant Professor of Mechanical Engineering; Hervey W. Shimer, Assistant Professor of Palæontology; and Alpheus G. Woodman, Assistant Professor of Food Analysis. Dr. Gilbert N. Lewis, who during the past year has acted as Director of the Research Laboratory of Physical Chemistry, has been advanced to the grade of Associate Professor of Physico-chemical Research.

ELECTION OF PRESIDENT MACLAURIN.—At a meeting of the Executive Committee of the Corporation of the Institute of Technology, held November 11, Professor Richard Cockburn Maclaurin, professor of mathematical physics at Columbia University, was elected President, and on November 23, at a meeting of the Corporation, this election was formally confirmed.

THE DEAN'S VISIT TO THE PACIFIC COAST.—Dean Burton was one of the invited guests at a convocation at Whitman College, Walla Walla, Wash., to found a high-grade technical school in connection with the college. The Dean was received with great enthusiasm by the former students of the Institute, who met him there. In Portland he was banquetted at the Commercial Club by twelve former Institute men who at that time formed the Technology Club of Oregon. At Seattle he was greeted by a dozen more Tech men, who formed the Technology Club of Puget Sound at the dinner given to Professor Burton. The whole spirit of the men in the West is one of enthusiasm and optimism for the Institute. Plans have already been made to send a delegation from both of these clubs to the Second Technology Reunion next June.

PRESIDENT-ELECT MACLAURIN VISITS BOSTON.—Professor Maclaurin addressed a convocation of students in Huntington Hall on December 15, at four o'clock. Every square inch of the hall was occupied, and the President-elect was greeted with the heartiest enthusiasm.

In the evening Dr. Maclaurin was entertained at dinner by the Corporation and Faculty at the new Tech Union. In a pleasant

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informal address Dr. Maclaurin dwelt particularly on the status of the Faculty in such an institution and on the necessity of making membership in it attractive by responsibility and opportunity rather than by any merely financial rewards. He referred with high appreciation to the ideals and to the difficulties overcome by President Rogers and his associates, and paid a cordial tribute to the work of Dr. Noyes as Acting President.

Addresses were also made by President Noyes, Mr. Wigglesworth for the Corporation, Dean Burton for the Faculty, and Mr. W. B. Snow for the Alumni Association.

A PROPHECY THAT IS BEING FULFILLED

To those who are close observers of the Institute, who know its work, its spirit, and the character and loyalty of the Faculty, not less devoted because of an increasing proportion of younger blood, the outlook for the future is more than encouraging. They can see coming out of the recent discussion of the Institute's status and affairs a definite tendency toward unity of effort from a quarter where its support has not been counted on,—the alumni,—and no uncertain indication from the Corporation that this co-operation is most welcome.

The older alumni are beginning to realize that the Institute is not the same as it was when they were students, but that it is as surely in the lead to-day, when educational competition is most acute, as it was years ago. All this has developed a sense of personal responsibility that is bringing forth fruit, meet for repentance. We do not refer especially to the Technology Fund: that is an incident,—a creditable incident. The real benefit is coming from the work and suggestions of individuals, taken up by an Alumni Association, now effectively organized and forming a harmonious trinity with the Faculty and Corporation. We have been passing through a most trying period of stress, only to find ourselves stronger and better and united in one common purpose,—the glory of the Institute of Technology.—M. I. T. Alumni Bulletin, May, 1907.

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TECH MEN IN THE PUBLIC EYE

EBEN S. DRAPER ('78) was elected Governor of the Commonwealth of Massachusetts by a large majority. Eben Sumner Draper was born in the town of Milford, Worcester County, Mass., June 17, 1858, son of George and Hannah (Thwing) Draper, grandson of Ira and Abigail (Richards) Draper, great-grandson of Major Abijah Draper, of Dedham, who fought in the American Army during the Revolutionary War, and a descendant of James and Miriam (Stansfield) Draper, who came from Yorkshire, England, to Roxbury, Massachusetts Bay, in 1647. The Drapers were manufacturers and inventors of weaving and spinning machinery both in England and New England. Governor-elect Draper attended the public schools in his native town, and later spent some time at the Allen School, West Newton. He then completed a course in the department of engineering at the Massachusetts Institute of Technology, after which he began work in the Hopedale machine shops, where he was trained in the various details of the business. Later he entered several cotton mills in Lowell, Manchester and other cities in New England. The knowledge thus acquired through three years of practical work was preliminary to his becoming selling agent for the various Hopedale concerns in introducing mill machinery. On attaining his majority, he became a member of the firm of George Draper & Sons, and on the organization of the Draper Company, in 1896, he was elected selling agent. Mr. Draper is a member of the Corporation of the Massachusetts Institute of Technology and a member of the Board of Managers of the Milford Hospital, which Mrs. Draper and he presented to the town of Milford. He is a member of the Board of Trustees of the Peter Bent Brigham Hospital, and vice-president of the American Unitarian Association. With his brother, Mr. George A. Draper, he built a very fine stone Unitarian church in Hopedale as a memorial to their father and mother. Mr. Draper

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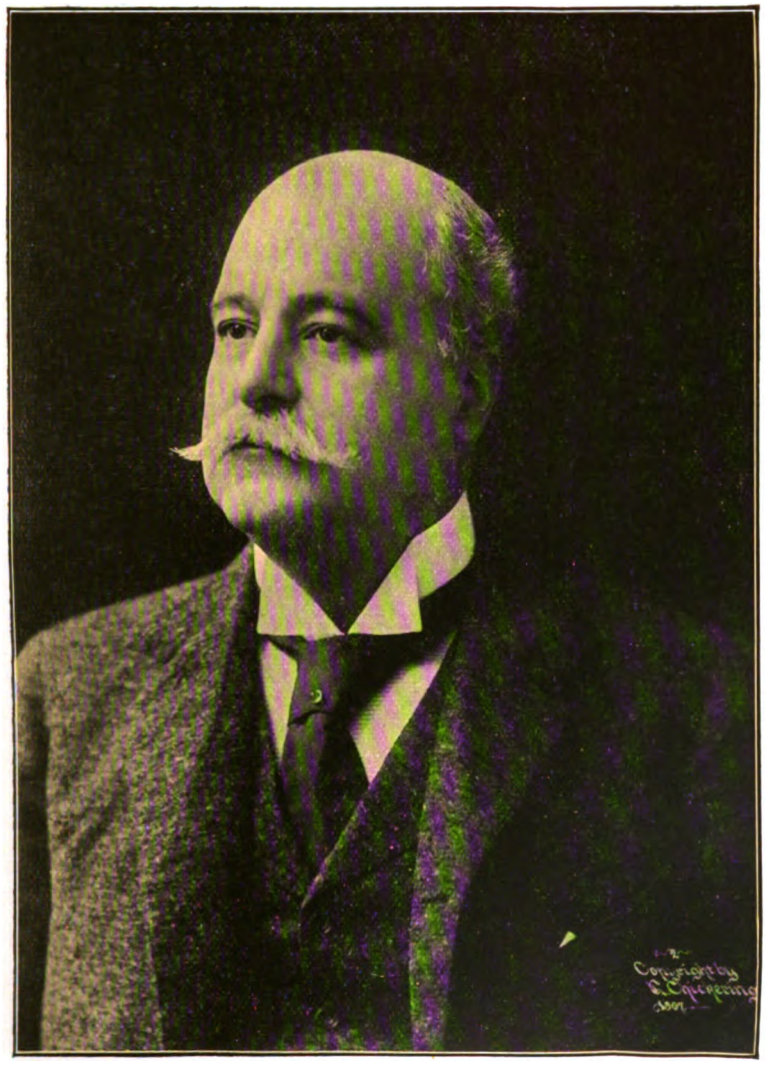

EBEN S. DRAPER, '78
Governor of the Commonwealth of Massachusetts

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was a member of the Massachusetts militia for three years, and on the outbreak of the Spanish War he was made president of the Massachusetts Volunteer Aid Association by Governor Wolcott. This association purchased and equipped the hospital ship "Bay State" at an expense of $200,000, also raising $200,000 more for the care of the Massachusetts soldiers and sailors. He was also chairman of the Massachusetts Association for the Relief of California. In 1905 the Republican State Convention unanimously nominated him for lieutenant-governor of the Commonwealth, and he was elected and inaugurated January, 1906. Since that time he has been re-elected as lieutenant-governor, serving in that capacity for three years. Up to 1905 he had never held a political office. He had served his party as a member of the Milford and Hopedale Republican Town Committees. He was also chairman of his Senatorial District Committee, and a member of the Congressional District Committee. He was also chairman of the Republican State Committee in 1892, but declined a unanimous re-election in 1893, although he served as a member of the committee the three following years. He served as president of the Republican Club of Massachusetts for two years, and has been a member of the club since its organization. In 1896 he went as a delegate from Massachusetts to the Republican National Convention at St. Louis, and was made chairman of the Massachusetts delegation. He canvassed all the delegates to that convention on the question of making the platform for "gold," and he secured, through fifty sub-committees working under his direction, a report showing the standing of every delegation in the convention on that measure. In 1900 he was Republican elector for the Eleventh Congressional District of Massachusetts. He was chairman of the Massachusetts delegation to the Nashville Exposition in 1897. Mr. Draper is interested in numerous cotton manufacturing and other industries throughout the country. He is a member of the Society of Colonial Wars, Union Club, Exchange Club, Country Club, Somerset Club, Algonquin Club, Technology Club. Previous to his nomination for governor, he was a director in the Boston & Albany Railroad, New England Cotton Yarn Company, National

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Shawmut Bank and Old Colony Trust Company. He married, Nov. 21, 1883, Nannie Bristow, daughter of the late General Benjamin Helm Bristow, of New York, who was Secretary of the Treasury under Grant and candidate for the presidency in 1876. They have three children: Benjamin Helm Bristow, born Feb. 28, 1885; Dorothy, born Nov. 22, 1890; and Eben S., Jr., born Aug. 30, 1893.

JOHN R. FREEMAN ('76) and Mr. F. P. Stearns, of Boston, have been retained as consulting engineers to the Baltimore Water Board in connection with the works to be constructed under a five-million-dollar loan recently authorized.

CECIL H. PEABODY ('77) was re-elected a member of the Council of the Society of Shipbuilding and Naval Architecture at the November meeting in New York.

ARTHUR A. NOYES ('86) at a recent meeting of the National Academy of Sciences at Baltimore, was made a member of the committee appointed by act of Congress to "take into consideration the methods and expenses of conducting all surveys of a scientific character, and all chemical testing and experimental laboratories, and to report to Congress a plan for consolidating the chemical testing and experimental laboratories, so as to effectively prevent duplication of work and reduce expenditure without detriment to the public service."

JAMES P. MUNROE ('82) has been made chairman of the Massachusetts Commission for the Blind, and Walter B. Snow ('82) has been appointed a member of the commission by Governor Guild.

C. HOWARD WALKER ('01) was recently made president of the Metropolitan Improvement League of Boston.

A. LAWRENCE ROTCH ('84), at the Dublin meeting of the British Association for the Advancement of Science, September 2–9, discussed before the Physical Section the warm stratum in the upper air. At the jubilee meeting of the German Meteorological Society, which was held at Hamburg September 28–30, Professor Rotch read a paper entitled "Die warme Schicht der Atmosphäre oberhalb 13 Km. in Amerika."

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EDWARD ROBINSON ('90) has been delegated by the University of Vermont, where he is professor of mechanical engineering, to spend a year visiting universities in this country and abroad, to note what they are doing along mechanical and engineering lines.

C. J. H. WOODBURY ('73) was given the degree of Doctor of Science at the last commencement of Dartmouth College. Dr. Woodbury received the same degree in 1906 from Union College, New York.

B. R. RICKARDS ('99), who has been director of the bacteriological laboratory of the Boston Health Department, has been secured by the Ohio State Board of Health as director of the bacteriological laboratory, and also to take charge of the laboratory devoted to the chemical analysis of water and sewage. Dr. Rickards will be located at Columbus, Ohio.

WILLIAM C. CLARKE, Jr. ('00), has recently been elected general manager of the Sea View Railway Company of Providence, R.I.

MATTHEW C. BRUSH ('01), general manager of the Newton (Mass.) Street Railway system, is president of the New England Street Railway Club.

E. H. DAVIS ('00) has been appointed registrar of Purdue University. Mr. Davis was graduated from the Institute of Technology, and was afterwards a student of political science in Columbia University. He joined the Purdue faculty in 1902 as instructor in political economy.

JOHN I. SOLOMON ('93) has made a notable invention which will probably result in the preservation of the pearl oyster fisheries, now becoming rapidly extinct, owing to the ruthless destruction of the pearl oyster under modern methods of compressed-air diving. At present 90 per cent. of the pearl oysters gathered and killed are found to contain no pearls, and of the remainder only a few have pearls of market value. Solomon has invented a process by which these oysters, while still alive, are examined by means of the X-ray. Those containing no pearls are thrown back into the sea in the hope that they may either become inoculated with the pearl-inducing cestode or that at least they will propagate their kind and maintain

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the number of oysters growing on the banks. Of the small number of oysters containing pearls, those only are killed which contain the larger pearls, the others being put into special beds and carefully guarded and watched until their pearls have grown to marketable size. This invention not only promises to yield handsome profits to its promoters, but its importance is attested by the fact that a paper by Solomon describing it, presented at the International Fishery Congress in Washington, D.C., last September, was awarded the international prize offered by the New York Academy of Sciences "for the contribution, not entered in competition for any other award, which shall be judged to have the greatest practical value to the fisheries or fish culture." A fuller account of Solomon's remarkable work is to be found in the '93 class news in this number.

ARTHUR FARWELL ('93) is becoming widely known throughout this country and in Europe as an ardent advocate of a distinctive American music. Graduating from the Institute as an electrical engineer, he did not follow his profession, but immediately went abroad and spent a number of years in musical study under some of the foremost teachers in Europe. Returning to this country, he carried on for a considerable time some remarkable musical researches among the Indians of the west and south-west and in Central America. No one has ever made such a thorough study of Indian music, and Farwell has succeeded in preserving Indian melodies and songs which soon would have been lost to the world by the extinction of the tribes. Many of these melodies and songs have been harmonized by him and incorporated in his own compositions, which have already given him high rank as an American composer. In his zeal for the development of a distinctive American music, Farwell has established at Newton Centre, Mass., the Wa-Wan press for the publication of such compositions by American composers as have intrinsic merit and originality. Farwell has organized The American Music Society, with centres in a dozen American cities, whose object is the study and preference of works by American composers and American folk-music. Farwell himself is president of the national organization and of the Boston centre, while David Bispham is president of that in New York.

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At present Farwell devotes his whole time to composing, teaching, lecturing and writing for the musical press, and he has given up, for a time at least, his visits to the Indians.

W. Z. RIPLEY ('90). The annual Huxley lecture before the Royal Anthropological Institute of Great Britain was delivered in London, November 25, by Professor W. Z. Ripley, on the subject "European Races in the United States." The Huxley medal was conferred on Dr. Ripley on this occasion in recognition of his book on the Races of Europe and of his general researches in the demography of Europe and the United States. The popular portions of the address have appeared in the *Atlantic Monthly* for December.

HENRY M. HOWE ('71), with Professor William Campbell, of the department of metallurgy of the Schools of Mines, Engineering, and Chemistry of Columbia University, has been appointed by the American Society for Testing Materials as their representative on the international committee dealing with the problem of uniform nomenclature of iron and steel. Professor Howe is chairman of this committee.

Mr. S. K. HUMPHREY ('90) has stimulated discussion of an important question by his article in the *Atlantic Monthly* for November on "Automobile Selfishness," dealing with certain fundamental aspects of the present use of public highways in a sane and definitely practical manner. The publication of Mr. Humphrey's paper has been followed by a discussion at the Twentieth Century Club, on December 19, by Major Henry L. Higginson, Mr. Robert Homans, and Mr. Humphrey, on the inadequacy of the present restrictions of the automobile.

HERBERT T. KALMUS ('04), of the Physics Department of the Institute, has effected a remarkable cure of a lupus patient by experimenting with the chemical effects of ultra violet light. An induction coil capable of giving a 30-inch spark was used, so arranged that the spark was reduced to half an inch, so that little heat, but a very large amount of light, was produced. Dr. Kalmus is making further experiments in collaboration with Boston physi-

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cians who have become interested in the remarkable results of the investigation.

Louis A. Ferguson ('86), vice-president of the Commonwealth Edison Company of Chicago, is president of the American Institute of Electrical Engineers. This is the highest honor that the profession can confer. Mr. Ferguson is generally recognized as one of the ablest and most distinguished central station engineers of this country. He was president of the National Electric Light Association several years ago.

George F. Swain ('77), John R. Freeman ('76), and Charles T. Main ('76), have been appointed by the American Society of Mechanical Engineers to assist the National Conservation Commission in valuing water powers. This appointment was in response to a request from the Commission, asking the Society of Mechanical Engineers to appoint on the committee the three ablest men in the profession.

Cass Gilbert ('80) was made president of the American Institute of Architects at the annual meeting in Washington, December 17. Of the six Fellows of the Institute chosen at the meeting, four were students in the architectural department at Technology. These are F. C. Baldwin ('90), Myron H. Hunt ('93), G. Harleston Parker ('95), and J. H. Perkins ('89). Mr. Gilbert was a member of the National Jury of Fine Arts at the World's Fair in Chicago, and the National Jury for Architecture at the Paris Exposition in 1900. He has designed many public buildings, some of the best known of his undertakings being the Union Club Building in New York; the new State Capitol at St. Paul; the Art Building and Festival Hall at the Louisiana Purchase Exposition, and the Essex County Court House at Newark, N.J. Mr. Gilbert is a native of Ohio, and was a special student at the Institute with the class of '80.

Harry W. Tyler ('84) is president of The American Federation of Teachers of the Mathematical and Natural Sciences.

G. A. Mower ('81) presided at the recent Thanksgiving dinner in London, at which Ambassador Reid was the principal speaker.

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CHARLES A. STONE ('88), EDWIN S. WEBSTER ('88), RUSSELL ROBB ('88), and HENRY G. BRADLEE ('91) are members of the firm of Stone & Webster, of Boston, who have been retained as street railway experts to assist the joint reorganization committee of the Metropolitan Street Railway to devise ways and means of reorganizing and rehabilitating the surface lines of New York City. The Metropolitan Street Railway rehabilitation is the fourth or fifth large piece of work which Stone & Webster have taken in hand during the last two or three years outside the management of their own twenty-five odd street railway and electric light corporations. The first large piece of work was the building of three new power stations for the Boston Elevated. A few months ago Stone & Webster were awarded a large contract for the reconstruction and enlargement of the United Missouri River Power Company power plant in Montana. This contract involved fully $3,000,000. More recently the firm has made an expert examination of several of the Gay properties, including the various Hudson River Power Companies, and there is some possibility that these engineers may take over the practical work of reorganizing and managing the Hudson Power Companies, an $11,000,000 power development, and one of the most important in the east. One of the leading electrical authorities of New England says: "Stone & Webster have won a national reputation in the electrical field by able management of their own properties and by marked ability in handling the few large pieces of outside work which they have undertaken. I believe their engineering department will receive a vast amount of expert work during the next few years, and that its development will be a source of pride to New England and incidentally open up new and large channels for the investment of New England capital." Associated with the organization of Stone & Webster are D. P. Robinson ('92), Charles F. Wallace ('92), W. H. Blood, Jr. ('88), F. O. Stetson ('88), B. R. T. Collins ('88), H. H. Hunt ('89), and a score or more of younger Technology men.

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OBITUARY

ARTHUR WARD HUNKING ('72).—News has been received o the death in Helena, Mont., of Arthur Ward Hunking, of Lowell, well known as an hydraulic engineer. He died suddenly from apoplexy. Mr. Hunking, who was in his fifty-eighth year, was born in Haverhill, and was a special student at the Massachusetts Institute of Technology with the class of '72. For many years he was engineer in charge of the locks and canals controlling the water power on the Merrimac River at Lowell. Of late years he has been consulting engineer for Stone & Webster. He was connected with a number of leading engineering societies.

WILLIAM MARTIN AIKEN ('79), who was consulting architect for New York city during Mayor Low's administration, died in New York, December 7.

Mr. Aiken was born in Charleston, S.C., in 1855. He was educated at the University of the South, and then took special courses in architecture at the Massachusetts Institute of Technology. He began his practical work in the office of H. H. Richardson, of Boston, and then went to Cincinnati, where he taught in the Art Academy and practised his profession.

In 1894 Secretary Carlisle made him supervising architect of the Treasury Department. While in the Federal service, Mr. Aiken designed the government buildings for the expositions at Atlanta, Nashville, and Omaha. He was also the architect of the new mint buildings at Philadelphia and Denver, and of several post-offices and custom-houses.

Mr. Aiken was a fellow of the American Institute of Architects, and a member of the Century Association, the Architectural League, and the Southern and Ohio societies. He was collaborator with Russell Sturgis in compiling the Dictionary of Architecture.

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RICHARD H. SOULE ('72), of Brookline, died at his residence 1571 Beacon Street, December 14, at the age of fifty-nine, after a month's illness. Until his retirement from active business four years ago, he had been for many years prominent in New York and elsewhere as a consulting mechanical engineer. He devoted his life to railroad engineering in various parts of the country. He was born in Boston on March 4, 1849, was graduated from Harvard College in the class of 1870 and from the Institute of Technology in 1872. He has been for two years a member of the Corporation of the Institute. He leaves a widow and two sons, Winsor Soule and Augustus W. Soule, both of Brookline.

Communication

EDITORS "TECHNOLOGY REVIEW":

Gentlemen,—The circular just issued by the Alumni Association contains a biographical sketch of the President-elect, Dr. Richard C. Maclaurin, which, I am informed, was reprinted from the circular sent to members of the Corporation. In it Professor Maclaurin is said to be at the head of the Physics Department of Columbia University,—a statement which was corrected by a member of the Corporation at its meeting in November.

Reference to the *Bulletin* of Columbia University for the present year shows that Dr. William Hallock is head of the Department of Physics, and a recent conversation with Professor Hallock confirms this fact. A copy of the alumni circular lay on his desk, and, although, he was not disposed to attach importance to the matter, justice to both him and to Dr. Maclaurin requires at least a conspicuous correction of the misstatement.

It may be added that our new President is spoken of by his Columbia colleagues with admiration and affection, but it is felt that their loss will be our gain.

Very truly yours,

A. LAWRENCE ROTCH, '84.

DECEMBER 11, 1908.

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WHAT THE EDITORS SAY

The following editorials from three different points of view are indicative of the expressions about the appointment of Dr. Maclaurin, from all over the country:—

THE PRESIDENCY OF THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY.

The Institute of Technology has now solved a problem of some delicacy and difficulty in selecting for the head of that institution Professor Richard Maclaurin, at present at the head of the Mathematical Physics Department of Columbia University, and he has accepted the honor and the responsibility. The Institute has been under capable direction during the nearly two years that have elapsed since the resignation of President Pritchett. Acting President Noyes has maintained its high standards and manifested a degree of executive skill that probably would have given him the full title and lodged the full authority of the position in his hands, had he been disposed to accept them. But his chosen field of chemical research has possessed more attractions for him. In it he has opportunity to blaze new trails in scientific advance, and he is to be commended for his clear and loyal following of his own light and leading in this matter.

The new President evidently understands in its general features the nature of the work to which he has been called, and his record in educational service indicates that he is one who readily becomes master of detail. The experience will be not less new to him than to the institution, which now, for the first time, will be under the direction of a man born in another country and trained in foreign schools and universities. That is not necessarily an objection. It may prove a positive gain. Professor Maclaurin is a comparatively young man. His attainments are more than excellent: they are extraordinary, and few men of his years have won more flattering recognition from sources that bear the stamp of authority.

Of course, mere scholarship, even of the highest order, is not enough to meet all the requirements of this new responsibility. His executive ability and his adaptability can be proved only by actual service. But Scotch scholars are thorough. Their standards are high, and shrewdness and per-

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sonal tact are among their national characteristics. When Princeton called Dr. McCosh to the presidency, he was a man well along in years, but a famous metaphysician, and he filled the place with distinction. The Institute does not need metaphysicians, and the new President has not turned his researches in that direction. He has made great advances in modern science; he is learned in the principles of law, and is undoubtedly an enthusiast with respect to the various lines of research with which he has been so conspicuously identified. The Institute authorities, the alumni, and the public have a well-grounded hope that under his administration a new era of prosperous service will open up for this famous school. —*The Boston Transcript.*

A NEW EDUCATIONAL LEADER

With the choice of Professor Richard C. Maclaurin, LL.D., as its President, the Massachusetts Institute of Technology enters upon a new and important stage in its history. The recent discussions concerning the proposed association with Harvard have brought the alumni, Corporation, and Faculty into more profitable relation than ever; but there are problems involved in the matter of a suitable site for the Institute, ways and means for adequate endowment, and for the increased expense of improved methods of instruction, and the development of the social life of the student body, which await solution by the new President. During the nearly three years in which the presidency has been vacant and the Institute has been under the administration of Acting President Noyes, the work of instruction has gone on steadily, and the extraordinarily high reputation of this efficient technical school has been finely maintained. To this institution comes a man of exceptional ability and achievement. At the age of thirty-eight he is at the head of the Department of Physics of Columbia University. He is a native of Edinburgh, Scotland, but his early boyhood was spent in New Zealand, and his preliminary education was completed in English schools. His record at Cambridge University is unusual, for he gained two of the most-coveted prizes of the University in two different and distinct branches of learning,—mathematics and law. Ten years ago he was appointed Professor of Mathematics in Wellington, New Zealand, and became a trustee of the University of New Zealand. Five years later he was made Dean of the Faculty of Law. While in New Zealand, he was actively engaged in the organization of technological education there. A year ago he was called to the chair of Mathematical Physics at Columbia, and this year was made the head of the Physics Department. He is a believer in

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the union of technical education with education for culture. He has received the degrees of both Doctor of Science and Doctor of Laws from Cambridge University. His election is full of promise to the Massachusetts Institute, and to the cause of education in this country.—*The Outlook.*

HE TYPIFIES AN IDEAL

The chief thing to be emphasized in modern culture, possibly, is the importance of substituting the scientific spirit of exactness for the amateur spirit of superficiality, and the chief problem of the modern university is to shape men who cherish the Baconian ideal of a many-sided learning. The new president of the Massachusetts Institute of Technology is a man who typifies this ideal in a manner almost unique. It is unusual in this country for one man to win eminence in such widely dissociated fields of scholarship as those of law, mathematics, and natural science. Mr. Maclaurin unites with this versatility a versatility which one would like to call American, if that did not seem unduly optimistic regarding the land of one's birth, the ripe and noble scholarly traditions of the English University of Cambridge. Harvard will look in vain for a president of the same mould, though it will find plenty whose achievement, within a more restricted sphere, has been equal, if not greater. In its zeal to find and develop an administrator of the first rank, let Harvard not overlook the influence its president must have on the popular ideal of culture, and the desirability of investing with this influence a man of the proper intellectual habits and ideals.—*Brookline (Mass.) Chronicle.*

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MISCELLANEOUS CLIPPINGS

[From the Boston *Post's* account of the torchlight parade.]

The Tech students were the liveliest of the paraders, and displayed the most transparencies. They wore red and gray gowns and mortar caps and took advantage of every opportunity to make themselves heard.

[The enterprise of *The Tech* in getting out a torchlight parade extra is commented on by the Boston *Journal.*]

That the Technology students possess the most enterprising student newspaper in New England was demonstrated last night, when *The Tech* got out an extra containing a special despatch from Judge Taft, and had the paper on the street among the college men before the parade broke up. The *Harvard Crimson* and *The Tech* have long been rivals in the matter of getting out extras, and up to last night the *Crimson* held the record for speed. *The Tech* published the following telegram:—

BATAVIA DEPOT, N. Y., Oct. 30, 1908.

Editor-in-Chief of The Tech, Massachusetts Institute of Technology:

Hope you will express to the college Republican paraders my appreciation of their efforts toward the victory which will be ours next Tuesday.

(Signed) WILLIAM H. TAFT.

The Tech also contained a special interview with Lieutenant Governor Draper.

[Editorial in the Boston *Advertiser* referring to the adoption of the "point system" limiting office-holding. The action was taken by the students' council, the Institute Committee, on its own initiative.]

The action by the Institute of Technology Committee in limiting the number of non-scholastic offices which any one student may undertake is wise and timely. It is a proper emphasis, rightly placed, upon the purposes of so serious-minded an educational institution as Technology is. It squarely meets the growing evil of too general activity by undergraduates in matters not directly connected with the serious and important work of the Institute. There is a place in schools and colleges for matters other

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than "book learning." Technology, however, has emphasized the strictly educational ends rather more strongly than other institutions of learning, and thus it is fitting that this protest should come there. The general principle emphasized, however, that extra-scholastic activity, social pursuits, should be effectively subservient to the designated purposes of college or technical education, is eminently sound and may be profitably pondered by other institutions. When a young man essays outside activities which are so requiring as to shift the proper balance between these and his studies, some restriction plainly is desirable. The Technology position is wise as applied to its own case. It offers a profitable hint to other institutions.

[Editorial in *The Tech* of September 30.]

The New Union illustrates the new Tech spirit which recognizes student activities not as necessary evils, but as encouraging signs of energy and initiative among the students, and things of educational value. It shows that the Corporation and Alumni are closely in touch and in genuine sympathy with the undergraduates. Technology and Technology men are not notoriouly rich, and gifts here mean a sacrifice and merit a higher order of gratitude than those at a richer institution. That the Corporation and friends of the Institute should feel so much interest in the welfare of Technology undergraduates that, even when there is still some talk of changing the site of the Institute, they should invest a considerable sum of money in a New Union and then turn it over without restrictions to the students for them to manage for their own use, will make every undergraduate consider thoughtfully his obligations and responsibility in connection with such a splendid gift. In fact, this has already been noticeable. The excellent work of the present board of control looks well for the future practicability of student management, and the enthusiastic spirit shown on every side cannot help but make the Union a thorough success. In this way, by supporting the Union loyally, by managing it capably, and by doing work in student activities that will further advance their reputation with the Faculty and Corporation, the present undergraduates can express a practical appreciation and gratitude for the New Union much finer and more lasting than mere words of thanks.

[Editorial in *The Tech* on the "point system."]

The Institute Committee in its first definite action has struck frankly at one of the basic faults of Technology undergraduate life. Every year has

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shown more clearly than the last that a few men in the Institute affairs were doing more than their share. This has resulted in injury to themselves and to the work. The injury to themselves came through overtaxed nerves and failure in scholarship. The injury to the student activities was done by the slighting attention of distracted officers and also from the small number of men vitally interested in activities. When thirty men hold seventy offices, interest in the affairs is not so broad as when seventy men hold the seventy offices. The action of the Institute Committee has remedied these evils by making it impossible for a man to hold more than one major office.

That this innovation will be successful cannot be questioned. Of course, details may be faulty, and can be revised after the scheme has been tested in practice. Also, time should be allowed for conditions to adjust themselves to the new régime. It would be a mistake to force a new set of rules upon student affairs when there is any risk of injuring them by so doing. Still, as a whole, the underlying principle of one man for one office is so necessary for successful student activities, in a college where active undergraduates are few, that it was bound to come sooner or later. It will open up opportunities to men whom the New Union will undoubtedly attract into student affairs, and cannot be opposed without laying its opponents open to a suspicion of undue desire for office holding.

[Editorial in *The Tech* on the abandonment of the fight between sophomores and freshmen on the night before Field Day.]

That Technology is able to keep up with the times and discard worn-out customs is shown by the action of the sophomore class in abolishing the traditional "night before." It is in line with the tendency in all the colleges nowadays to abolish the rushes and hazing. Harvard was obliged to give up "Bloody Monday" because outsiders came in and made it so rough as to cause many serious injuries. It is probable that the death of Grant in a rush at Worcester Polytechnic recently will be a serious blow to the custom of that institution.

The historic "cane rush," which was a regular event each fall at the Institute for so many years, was abolished when Moore, 1904, died from injuries sustained in a rush with 1903. At that time the custom originated of contesting to see whose flag should wave over the field on Field Day. While this was all right for a while, it became impossible to keep out the muckers, and a large force of police was necessary to prevent their interference from having serious results.

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Last year, although the sophomores put up their flag, there was practically no scrimmage, as few freshmen came out, and the event was a farce. The general feeling at the time was that the "night before" was a thing of the past. The class of 1910 established a precedent in leaving the freshmen unmolested at their class dinner, which has been followed this year, and will probably be hereafter. The action of the class of 1911 yesterday now establishes the idea, which has been growing universal, that the natural feeling between the two under classes can be settled in an orderly way in the regular contests on Field Day without any "roughhouse" and accompanying evils.

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BOOK REVIEWS

TYPHOID FEVER: ITS CAUSATION, TRANSMISSION, AND PREVENTION. By G. C. Whipple ('89), with an Introductory Essay by William T. Sedgwick. New York: John Wiley & Sons.

Few, even among the graduates of the Institute of Technology, realize the important part which the school has played in the remarkable development of sanitation in the United States during the last twenty years. Those who have not been in touch with the campaign for pure water and pure air and clean cities may be surprised at the dedication of the latest book on Typhoid Fever, by G. C. Whipple, which runs as follows:—

"To the Massachusetts Institute of Technology, my Alma Mater, a Pioneer in Sanitary Education entitled to the gratitude of every one who values the Public Health."

Yet this tribute is not undeserved. The Institute was the first school in the United States to so combine chemistry and bacteriology and engineering as to fit men adequately for the new profession of sanitary science. It is very largely through the efforts of our graduates that the war against disease in the environment has gone forward so rapidly; and to-day Institute men are taking a leading part in the campaign all over the Union.

These men are not medical men. The remarkable thing about the new sanitary science is that it deals with the causes of disease rather than with disease itself. Some of the causes as Mr. Whipple points out can best be eliminated by the sanitary engineer, the sanitary chemist, and the sanitary biologist. Water supply and sewerage are their business; and these are the measures which have produced more effect on typhoid fever than any others. On the other hand, the control of the disease in the household, the isolation of the patient, the disinfection of excreta, are within the province of the physician. The two professions must work together, and Mr. Whipple's book should materially help to interpret them to each other and to co-ordinate their activities.

After a brief treatment of the symptoms and bacteriology of typhoid fever, Mr. Whipple takes up The Typhoid Patient as a Focus of Infection. He shows how the excretions of the diseased body may carry the germs by numerous paths to new victims, water, milk, flies and direct contagion being only a few of the numerous vehicles of transfer. The prompt dis-

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infection of excreta in the sick-room offers one of the most efficient of all measures in dealing with disease. The neglect of this precaution and the exploded dogma that "typhoid fever is infectious, but not contagious" are perhaps the chief causes of that excess of typhoid fever in the United States which truly constitutes "a national disgrace." In a chapter on "The Typhoid Bacillus at Large," Mr. Whipple discusses with admirable clearness and conservatism the life of the organism in water, ice, milk, soil, etc. He shows that, as a parasitic germ, it finds all these environments unfavorable and gradually dies out, so that more or less direct transfer from infected person to susceptible victim is the thing most to be feared. Filtration of public water-supplies, pasteurization of milk, regulation of oyster culture, and war against the fly nuisance are the chief measures of defence against germs once discharged into the environment, as disinfection and sewage purification, at the other end of the chain, prevent the wholesale infection of the environment itself.

A chapter on Typhoid Statistics and another on the seasonal distribution of the disease, its incidence on the various ages and sexes and races and its prevalence in various geographical districts, close the more general portion of the book. The most important classical typhoid epidemics are then reviewed in some detail, and methods for the investigation and control of epidemics are discussed. Mr. Whipple's experience as an epidemiologist in the Kennebec Valley and at Cleveland, Ohio, equip him well for this part of his task. As he rightly says, "To trace an epidemic to its source is not so much a study for the doctor as for the statistician, the detective, the bacteriologist, the chemist, and the engineer. The specialist has to be all these at once."

After a more detailed discussion of the actual results attained by improvements in water supplies and milk supplies, Mr. Whipple takes up the financial aspects of typhoid prevention, along the lines of his earlier book on "The Value of Pure Water." A great deal of nonsense is written to-day about the extent to which various diseases could be prevented and the financial profit to be derived from the transaction. Mr. Whipple writes no nonsense. It is sober truth that a large proportion of the 30,000 deaths from typhoid fever in the United States could be prevented. Perhaps, as Mr. Whipple estimates, the preventable proportion is three-fourths; perhaps we can only hope by any practical improvements to cut our present death-rate to one-half. The main fact remains that we have a vast amount of preventable typhoid. The reasons why we have it and the methods we should adopt to do away with it could scarcely be better presented than

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Mr. Whipple has presented them. His book is orderly and progressive; its facts are accurate and full; the judgment of the author is sound throughout; and his style is clear and readable.

The subject-matter of this book should not be confined to physicians and sanitarians. There is scarcely an intelligent engineer or a public-spirited citizen who would not be the better for a clear knowledge of the causes of the principal diseases and of the specific preventive measures by which they can be met. Professor Sedgwick says in his introduction:—

"The statement is often made that 'for every case of typhoid fever some one ought to be hanged.' It is a striking saying and worth remembering, because it puts the responsibility for this disease where it belongs; namely upon mankind, and not upon fate or the gods. But, unless hanging is to be introduced as a penalty for ignorance and neglect, it is not often true. What is true is that *every case of typhoid fever comes from somebody's ignorance or neglect.* And here also the remedies are education and training, with penalties only for criminal negligence. We might more truly say that for every case of typhoid fever some one ought to be educated."

Mr. Whipple's book is admirably adapted to carry forward this work of education.

C.-E. A. Winslow, '98.

The Man who ended War. By Hollis Godfrey ('98). Boston: Little, Brown & Co.

The novel is not a form of literature in which Tech men are usually prolific. Since, however, Mr. H. G. Wells has shown that the wonder-story with which Jules Verne delighted us in our youth could be developed on the latest scientific lines and made of absorbing interest for adults, there is no reason why novelists should not "prepare" at Tech, by learning about the material they are to handle.

Hollis Godfrey is primarily a teacher of chemistry, but a teacher who reaches out beyond his class-room to use the wider influences which are at the command of his profession. A series of articles in the *Atlantic Monthly* on the health of the city are examples of excellent scientific popularizing,—that task which is to-day of such supreme importance and such supreme difficulty. The present volume, however, is not at all educational. It is simply an amazing story. Yet this, too, is useful; for scientific wonder-stories, if the wonders are not wholly unreasonable wonders, help to create an atmosphere favorable to scientific work.

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The Man who ended War made use of a tremendously powerful radio-active substance which destroyed metals, causing them to vanish into gaseous form like a puff of smoke. He warned the governments of the world that their warships would one by one disappear, and all aboard perish, if disarmament were not at once begun. Contempt for a crank gradually gave way to alarm and terror, as these dire prophecies were fulfilled. But meanwhile the hero of the book, a reporter, his friend, a physicist, and the physicist's charming sister, are on the track of "the man who will stop all war." By radioscopes and wave-measuring machines they follow the trail of the mysterious destroyer. In a boat insulated against the deadly waves, they watch his work at close range. When the nations finally yield, they communicate with him by wireless, that both he and the world may be at peace. Meanwhile another wireless circuit has been completed, which includes Jim and Dorothy, to the great satisfaction of all concerned.

Mr. Godfrey's miracles are sufficiently plausible to hold one's interest. The sense of mystery all through the book is well sustained; and the human side of the problem is not neglected. Passages, like the following description of a reconnoissance by search-light, testify to good observation and a mastery of words:—

"Constantly we moved in light, while all else was in shadow. Before us was the shore, lighted as by a ghostly radiance, on either side was darkness, such darkness that we could barely distinguish the sky line of bluff and tree against the sky. We neither spoke nor moved, and the sailors forward scarce broke by a movement the silence, with its single sound rising above the monotony of the waves. Dark green of pine and cedar, lighter green of scrub oak, yellow gray of sand dune, soft brown warmth of massive boulder, curling white where splashing waves broke on the glistening pebbles of the shore, ragged stump and lofty maple,—all were etherealized by the silver, shifting light."

The description of the last review of the armies of England before their final mustering out is done with a rare touch of pathos. Altogether, it may confidently be predicted that any one who begins this book will finish it, and then will wish that Godfrey would write some more stories of the same kind.

C. E. A. Winslow, '98.

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BOILER ACCESSORIES. By Walter S. Leland ('96). 123 pages, 6½ x 9½ inches. Published by the American School of Correspondence. Chicago, Ill.

Of late years the need for books which treat a limited subject in the mechanical field specifically, has become more and more apparent, and the American School of Correspondence has brought out a number of books which deal each with one limited division of mechanical knowledge. By doing so, it is possible to present a more complete treatise on this particular subject than is possible in a large work trying to cover the whole territory of mechanical engineering. This book deals specifically with boiler accessories, boiler setting, control and supply devices, and one part of the book is devoted to the troubles met with in boiler operation and the carrying out of tests. In preparing this material, it has been the aim of the author to lay special stress on the practical side of the subject, treated as distinct from mere theoretical and academic discussion. The book is illustrated with seventy-two line engravings and several half-tones made from photographs of existing boiler plants.

THE STUDY OF STELLAR EVOLUTION. By George E. Hale ('90). pp. xi + 252; 104 plates; 7 text figures. University of Chicago Press, 1908. Price, postpaid, $4.27.

This intensely interesting volume from the pen of one of the Institute's most eminent alumni should be read by every one who would learn something of the remarkable instruments and methods which have been developed and of the results obtained during the last fifteen or twenty years in the domain of astrophysics. In this particular field of research no one has contributed more, by the invention of novel and powerful instruments and by actual results obtained, than Professor Hale, and he has given in the volume before us a delightfully characteristic non-technical account not only of what has already been accomplished, but also of problems at present under investigation, and of others which remain to be solved in the future.

As originally planned, the work was intended to be a handbook of the Yerkes Observatory. In its present form, however, it is much more than this, including, as it does, an account of the very recent work on Mount Wilson, California, where under a grant from the Carnegie Institution Professor Hale has established the Carnegie Solar Observatory,—unique among its kind, as well as of the researches carried out by him and his associates at the Yerkes Observatory. In the development of a programme

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of observatory work, together with its necessary instrument equipment, the author has always had before him the problem of stellar evolution in its broadest sense. This explains the wide range of investigations touched upon in this volume. Of particular interest is the discussion of various novel types of telescopes and of the work for which each is especially adapted. In the modern astrophysical observatory, however, the telescope, although a necessary, is by no means a sufficient instrument of research. To the astrophysicist it serves but to bring the image of some celestial light source to a focus within his laboratory, there to be submitted to minute analysis with the aid of powerful spectroscopes and their accessories. The sun, being the nearest of the stars, furnishes the richest field for such research, for it is only by an exhaustive study of its chemistry and physical condition that we may hope to interpret the conditions, as recorded by their spectra, of the more distant stars. Professor Hale's own epoch-making researches in the field of solar physics are well known, and the chapters devoted to them are especially interesting.

"The Study of Stellar Evolution" is not in any sense a treatise on theories of the evolution of celestial bodies. On the contrary, it is discursive in style, and the various subjects discussed are treated more or less individually.

The reader feels, however, that he is introduced into the very midst of the problems which are attracting the attention of astrophysicists at the present time, and it is this which gives to the work such lively interest. The magnitude of some of the undertakings projected, as well as of those already accomplished, cannot fail to impress him as astounding. To mention but one, the construction, transportation to the top of a mountain 6,000 feet in altitude, and mounting of the new Hooker telescope, the glass mirror of which is to be 100 inches in diameter, 13 inches thick, and 4½ tons in weight, is an engineering problem in itself of large dimensions.

A feature of the work which should be especially mentioned is the superb collection of plates, 104 in number, which constitute no less than one-half the volume. These include many taken by the author himself and also beautiful examples of photography by Barnard, Ritchy, and Ellerman. The press-work is of a high order of excellence, the volume being one of the series of Decennial Publications of the University of Chicago.

H. M. Goodwin ('90).

A Text-book of General Bacteriology. By Edwin O. Jordan, Ph.D. (S.B. M. I. T., 1888), Professor of Bacteriology in the University of Chicago and in Rush Medical College. Fully illustrated. pp. 545

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and indexes. W. B. Saunders Company: Philadelphia and London, 1908.

If anything had been needed to establish Professor Jordan's reputation as one of the leading bacteriologists of the time, this solid volume of 550 pages would have been more than sufficient.

When Professor Jordan entered the Institute as a freshman, there was nowhere in the world any such recognized science as bacteriology. Even in Germany the first thin volume of the *Jahresbericht* appeared in 1885, but the growth of the new science was so rapid that before young Jordan graduated he had already begun work in what has since proved to be his chosen profession. To this he has now given twenty years of teaching and investigation, of which the volume before us represents the ripe and worthy fruit.

We have had, and are still having, many books upon bacteriology. Of these some are good, some bad, but most indifferent. Some are frankly pathological, some agricultural, some nondescript. Very few are really broad and general or in any degree suitable for classes of beginners in universities and technical colleges. Only Fischer follows the strictly biological path marked out so successfully by De Bary years ago, but now almost forgotten. Jordan parallels this path, and points out clearly in his preface the importance of general bacteriology when he says that this "should find a place in every general scientific course," rightly adding, further on, "For the general scientific student and reader bacteriology presents certain aspects that tend to widen the outlook upon a variety of human interests."

Knowing Jordan's breadth and catholicity of mind, we had come to expect from him a treatment of the subject similar in biological breadth and balance to that of De Bary. But in this one particular we must confess to a slight disappointment, for the pathological aspects of the subject in this volume so largely fill the field of vision as to obscure, to a great extent, other and important relations of the bacteria. It is regrettable, for example, from our point of view, that in a general text-book the bacteria of animal diseases absorb 350 pages, while the bacteria of earth, air and water, and the agricultural, industrial and plant-disease bacteria, occupy only seventy pages. It is also regrettable, from the pedagogic view, that what we may call the more "normal" bacteriolgy—*i.e.*, the bacteriology of earth, air soil, water and foods—should not have been made to precede the pathological. This plan, of course, would have postponed too long for the author's purposes, the consideration of the more medical topics, and it may also be

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urged, with some force, that the first six chapters form a sufficient general introduction, while the interest in, and the superior knowledge and importance of, the disease-producing forms should cause them to receive the principal consideration.

Apart from this one criticism of balance or proportion, we have only the highest praise to award. The subject is scientifically and generously conceived, thoroughly and dispassionately treated, and securely built upon broad biological foundations. The style is direct, clear and compact. The method of argumentative presentation by discussion, introduced into biological text-books by Michael Foster, is often used, but always in moderation. A few "first aid" foot-notes are wisely given, referring the reader to the original sources of our present knowledge. The pathogenic protozoa and some other strictly speaking non-bacterial forms are properly included, and well, if briefly treated, while a helpful Appendix deals with those infectious diseases, such as small-pox, rabies, yellow fever, measles, mumps, foot-and-mouth disease, etc., of which the germs, if any, are either in dispute or else as yet unknown.

The publishers have done satisfactorily their part. Barring that excessive weight which makes so many modern books a weariness to the flesh, this one is unusually well made. The paper is not excessively thin or shiny, the type is well chosen, the illustrations excellent. Taking it all in all, this is a capital treatise, a solid contribution to biological science, and far and away the best text-book on general bacteriology hitherto published.

W. T. Sedgwick.

The Systematic Relationships of the Coccaceae, with a Discussion of the Principles of Bacterial Classification. Including a Key to the Genera and Species and a Bibliography. By Charles-Edward Amory Winslow (M. I. T., '98), Assistant Professor of Biology, and Anne Rogers Winslow, Sometime Special Student of Biology, M. I. T. Colored frontispiece and pp. viii+ 300. 8vo. New York: John Wiley & Sons, 1908.

We have here a monograph on one of the great sub-kingdoms of the bacteria such as would do honor to the Proceedings of any scientific Academy or any Association for the promotion of pure science. That publishers have been found willing to bring it out in book form and to add it to the list of their regular publications is striking testimony both to their foresight and public spirit and to the rapidly widening demand for scientific memoirs.

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The classification of sparrows and goldenrods is difficult enough, and has long been a puzzle to zoölogists and botanists. But, because of the smallness of the bacteria, differences in the form or structure of these minute beings are usually very hard to detect. Ferdinand Cohn in 1870, roughly subdivided them into rods, balls, and spirals, a grouping which still stands; but beyond this almost childish classification we have had, for the most part, to apply the Biblical test of knowing them by their fruits. For, very much as clergymen and cut-throats may be indistinguishable in appearance, yet are generally separable with ease by their deeds or fruits, so two rods, two balls or two spirals, seemingly alike, may turn out, when judged by their behavior, reactions, products or habits, to be the one harmless, the other murderous. Unfortunately, however, habits and deeds seem to be more variable than forms and structures, and hence the need of long series of observations, careful measurements, and frequency determinations, if these more changeable functional characteristics are to be relied upon.

Professor Winslow, finding the classification of the ball-shaped bacteria in utter confusion, and yet requiring for his own studies to know where he stood when he found, for example, streptococci in sewage and micrococci in air, enlisted the collaboration of Miss Anne Rogers, a well-trained and enthusiastic student of biology, in a thorough study of such members of this group as they could find anywhere in nature or in disease. To this study they brought the latest methods of biometry as well as of systematic bacteriology and chemistry, and the monograph which now appears and bears their names gives their results and testifies to their success.

This monograph will, at first sight, seem to be caviare to the general, but as a monument of patient, persistent and successful scientific research it will stand. It will hold an honored place in every biological laboratory worthy of the name, and be on the desk of every student of systematic bacteriology. One of its most valuable features is an artificial Key to the Genera and Species, and this, especially when joined to the extensive bibliography at the end, makes the volume simply indispensable to the working bacteriologist, pathologist or sanitarian.

The publishers have done their full part. The paper is good and free from all unhygienic shine, the type is handsome, and the press work and binding are excellent. WILLIAM T. SEDGWICK.

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PUBLISHER'S PAGE

GOOD FIELD— LOW RATES

The advertising department of this issue of the REVIEW covers a wider field than usual. It now more nearly represents the real value of this magazine as an advertising medium and the quality of the buying public to which it appeals. Most of these announcements have particular significance for friends of Technology, and it is hardly necessary to suggest that the spirit of co-operation which is in the air be extended to those who are lending us a very welcome hand.

The REVIEW has no advertising solicitors on salary or commission,—the low rates offered will not permit,—but it appeals, and will further appeal, to many because of the character of its audience and the keenness of Tech men to take up with the things offered that are worth while. The increase in circulation and interest because of culminating events places the magazine in a very strong position.

The success of the business department of this number is largely due to the energetic work done by the secretaries of the classes, through whose efforts the REVIEW was founded. The interest in the advertising feature that has been stirred up should mean a continued increase in the patronage of this department, and we shall be glad of any further assistance from those who have the welfare of the REVIEW at heart. Rates are as follows:—

	Per Year.	*Per Issue.*
Professional card, 2⅜ inches x 1⅝ inches	$10.00	$3.50
One-quarter page	35.00	12.00
One-half page	60.00	20.00
One page	100.00	35.00

"Want" advs. $1.00 for 4 lines, half the width of advertising page.

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LOOK FOR THE APRIL NUMBER

The April number of the REVIEW will contain the complete program for the Second Technology Reunion; an account of the alumni dinner in Boston; an article showing the plan of organization that is being worked out among the undergraduates, which is an education in itself, and which is challenging the attention of the college world; plans for the inauguration of Dr. Maclaurin as President; the educational advances made by the Institute, and the most notable work of the research laboratories; a full account of the activities of the twenty-five alumni associations all over the country; "Tech Men in the Public Eye"; class news; and reviews of books written by Tech men. The many important events that may transpire during the next three months will be faithfully chronicled, so that the REVIEW will be indispensable to every man who has faith in Technology.

EVERY MAN IS INTERESTED

The announcement that the Alumni Association will publish a list of non-graduates is only a small indication of the general appreciation of the part that special students have played in advancing Technology. It is expected that every interested member of this large body will become actively identified with the great work that is before us, and apply for membership in the Alumni Association. The membership fee includes subscription to the REVIEW, now the official organ of the Alumni Association, and each member will receive a copy of the Register of Alumni, not graduates. Associate members have every privilege of the Association except holding a few of the elective offices. They vote for all officers, including term members of the Corporation, and are eligible for election to the Alumni Council.

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NEWS FROM THE CLASSES

1868.

ROBERT H. RICHARDS, *Sec.*, Mass. Inst. of Tech., Boston, Mass.

During the summer R. H. Richards made an extended trip visiting western concentrating mills for the purpose of explaining, with a view to the introduction of his new pulsator classifier and pulsator jig, devices for concentrating ores. He has found the mill men everywhere most interested in hearing about the new devices and ready to listen and consider the introduction. He has visited some seven districts in Arizona, two in Mexico, one in Utah, and two in Montana, all concentrating copper ores, and has visited one in Missouri and one in Utah, and three in Idaho concentrating lead, and one in Colorado concentrating gold and silver ores.

During Professor Richards' summer trip visiting the mills of Arizona, Mexico, Utah, Idaho, Montana, and Colorado, he made it a practice to get Technology men together for a dinner wherever possible. The following list of dinners were held at the places named, together with the names of those who participated: Morenci, Ariz., about July 2, Frank D. Rathbun ('03), Detroit Copper Company, Albert W. Wells ('05), Detroit Copper Company; Globe, Ariz., about July 6, Harold S. Duncan ('07), Old Dominion Copper Company, Shepartt K. Emilio ('07), Old Dominion Copper Company, Harold C. Plummer ('06), Old Dominion Copper Company, Ralph D. Williams ('04), Miami Copper Company; Tucson, Ariz., about July 16, Ira Wm. Chace ('98), George A. Crane ('07), Robert R. Goodrich ('85), Edward A. Thornton ('07); Nacozari, Mex., about July 12, George H. Booth ('98), C. A. Smith ('02); Los Angeles, Cal., about August 1, James W. Johnson ('82), Willis T. Knowlton ('93), Edward L. Mayberry ('06), Burdett Moody ('90), Louis A. Parker ('06), Samuel Storrow ('90), George E. Hale ('90), Pasadena, Cal., dined together; Mrs. S. P. Clark (Miss Carrie Rice, '82) invited him to her house about July 31; Salt Lake City, Utah, about August 6, Matthew Brodie ('02), E. P. Fleming ('01), Lewis T. Cannon ('96), W. B. Fisher ('78), C. W. Goodale

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('75), Bartlett A. E. Wells ('06), Vallette L. Benedict ('94), B. W. Mendenhall ('02); Wallace, Ida., about August 16, F. F. Johnson ('84), P. M. Paine ('04); Telluride, Col., about August 24, J. H. Batcheller ('00), Robert Livermore ('03); Butte, Mont., about August 19, John F. Card ('04), C. W. Goodale ('75), T. B. Black ('09), T. G. Chapman ('09).

1874.

C. F. READ, *Sec.*, Old State House, Boston, Mass.

Thomas H. Sampson, of New Orleans, was in Boston recently, and called upon the secretary. They had not met for so many years that memory fails to record the exact date. Mr. Sampson promises another visit to Boston during the present year.—Charles D. Austin is to return to Boston to live. He has been for many months past superintending the erection of a prominent bank building in Cleveland, Ohio.—Benjamin L. Crosby, who was principal assistant engineer on the construction of the Vancouver Bridge, Vancouver, Wash., has been recently appointed division engineer of the Northern Pacific Railway Company, in charge of operated lines west of Ellensburg, Wash. Mr. Crosby will reside at Tacoma.—Joseph B. Emerson, of Honolulu, who is retired from business, is passing the winter in Lausanne, Switzerland.—William T. Blunt is superintendent of sub-aqueous rock excavation of the Panama Canal, with headquarters at La Boca, Panama. He expects to visit Boston in March next, when he has a leave of absence.—The class association will celebrate the thirty-fifth year of graduation in 1874 by a reunion at Young's Hotel on the 18th of this month. The wives, children, and friends of the members are invited to attend, and the affair promises to be a most successful one. Reunions of a similar nature were held in 1899 and 1904.

1877.

RICHARD A. HALE, *Sec.*, Lawrence, Mass.

Frank C. Skinner, of Missouri, who has just been promoted by Secretary Garfield and President Roosevelt to a position on the board of examiners-in-chief of the Patent Office, is a native of Lawrence, Mass., where he was first educated in the Lawrence High School. He is also a graduate of the Albany Law School.

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Immediately after he graduated from law school Mr. Skinner practised law in Massachusetts. Then he went west, and settled in Nebraska. In 1883 he was appointed to a position in the Patent Office, and by competitive examinations he was advanced from time to time. Commissioner Moore, of the Patent Office, has frequently called upon Mr. Skinner for special services in difficult matters before the office, and he has always made good.

1882.

WALTER B. SNOW, *Sec.*, 170 Summer Street, Boston, Mass.

J. E. Chapman, of Evanston, Wyo., who has been spending the past few months in the East, has just been honored by election to the State Senate, his election having occurred during his absence. When asked if he would be willing to be a candidate, he replied that he cared nothing for the honor, and asked that nothing should be done about it. He was, therefore, much surprised to receive a telegram stating that he had been elected by a large majority.—F. B. Cochran is treasurer of the National Vacuum Company, with office at 20 Broad Street, New York City.—James P. Munroe has been elected chairman of the Massachusetts Commission for the Blind, and Walter B. Snow has been appointed a member of the Commission.

1884.

PROF. W. L. PUFFER, *Sec.*, 307 Equitable Building, Boston, Mass.

H. G. Hammett called on the secretary a few days ago while passing through Boston from the New York meeting of the American Association of Mechanical Engineers. He is president of the Society of Engineers of Eastern New York.

As the twenty-fifth anniversary of our graduation has been computed to fall in 1909 and as it seems scarcely fitting that this should be commemorated merely by the All-Technology Reunion, a committee composed of Tyler, Puffer, and Gill has been actively engaged in collecting material for a twenty-fifth anniversary class book. This book will contain autobiographies of all members of the class who can be persuaded to expose themselves to the autobiograph, and will be of intense interest to the contributors and to their posterity.

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1885.

ISAAC W. LITCHFIELD, *Sec.*, 88 Broad Street, Boston, Mass.

Frank Page, who is president of the Confectioners' Machinery and Manufacturing Company of Springfield, is also president of the Connecticut Valley Metal Trades Association, which held a meeting on November 30 at Springfield. One of the speakers was F. K. Copeland (M. I. T., '76), of Chicago, who is president of the National Metal Trades Association.—President-elect Taft was the guest of the North Carolina Association in New York at a dinner held on December 7 at the Hotel Astor. Among the speakers was President W. W. Finley, of the Southern Railway Company, and Hugh MacRae ('85), of Wilmington, N. C.—E. L. Rawson, who was for many years superintendent of construction for Winslow & Bigelow, has opened an office for the practice of architecture and engineering at 6 Beacon Street.—F. C. Sands, who was with '85 the first two years, is with Sands, Taylor & Wood, 131 State Street, Boston.—Redington Fiske is at 60 Congress Street, Boston.—C. R. Allen has just been appointed master of the new Industrial High School at New Bedford, Mass.—David Baker has a son, D. F. Baker, in the Institute, Class of '12.—Arthur D. Little, whose article describing the aims and forecasting the future of the new Research Laboratory of Applied Chemistry appears in this issue under the title "A Laboratory for Public Service," has recently delivered several addresses in which he has developed different phases of the relations of the chemist to the community. As chairman of the Division of Industrial Chemists and Chemical Engineers of the American Chemical Society, he presided at the Baltimore meeting of the division December 29, 30 and 31, and delivered an address entitled "The Untilled Field of Chemistry," and in November Little gave a talk on "The Relation of Chemistry to Business" before the students of the Boston High School of Commerce. On December 17 he spoke to the chemical students of Syracuse University, on the subject "The Chemist and the Opportunity." That same evening he read a paper on "Paper and Paper Making" before the Syracuse Section of the American Chemical Society, illustrating his remarks by many lantern slides and samples, including a remarkable collection of Italian water-marks reproducing portraits, paintings, and elaborate designs of highly artistic quality. Some of the water-marks were produced in color by processes unknown in this country.—The great advance that the laboratory of applied chemistry marks in the history of the

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recent work of the Institute will impress the reader of Little's article in this number of the REVIEW. It is of particular satisfaction to '85 men to know that this laboratory came about largely through the efforts of H. P. Talbot, whose comprehensive foresight has placed the chemical department so well in the front. At the Baltimore meeting of the American Society for the Advancement of Science, Talbot presided as chairman of the Section on the Education of Chemists, and gave a short address on "Science Teaching as a Career," as a retiring chairman of section "C" of the association.—*Charities* of New York published a sketch of Charles R. Richards, the new director of Cooper Union, in November. In speaking of the work of the Union, *Charities* says that the general course in science occupies the most prominent place on the curriculum. "It requires five years' regular attendance for five nights a week. Seven hundred and thirty men have been graduated from the general science course since it was organized, and many of them are now holding prominent positions in the engineering world. The new director does not minimize the great importance of the science courses, but he does believe that the purely scientific and technical instruction in engineering and chemistry should be expanded to include special classes where instruction will be more directly related to the industries of New York. Courses relating to the building trades and to many of the manufacturing industries and special classes in industrial chemistry are among the possible lines of development, and it is the new director's task to increase the financial and physical resources to make the additional work possible."—C. D. Brown & Co. have moved from their old building on Congress Street to handsome offices in the new John Hancock Building, 49 Federal Street, Boston.

1888.

WILLIAM G. SNOW, *Sec.*, 1108 Penn Mutual Building, Boston, Mass.

B. R. T. Collins has recently been in California investigating oil-boring plants. He is now in El Paso, Tex., where he has made his headquarters since April.—Buttolph, Thompson, and Snow attended the December meeting of the American Society of Mechanical Engineers in New York.—Richard Vose is connected with the Bridge Department of the Mexican Central Railway.—The secretary is about to publish another decennial report. He wishes to urge class members to send in news items to him for publication in THE TECHNOLOGY REVIEW.

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1889.

PROF. W. E. MOTT, *Sec.*, Mass. Inst. of Tech., Boston, Mass.

The committee authorized at the last annual meeting to consider plans for the twentieth reunion has been appointed by the class president. The members are as follows: W. B. Thurber, F. R. Hart, G. C. Wales, W. C. Kilham, and the secretary. The committee is to report at the next annual dinner to be held Monday evening, February 1.—W. M. Duane has resigned as chief engineer of the "Big Four," and is reported as connected with a large Chicago construction company.—As a member of the Fire Commission of Brookline, W. W. Estabrook has been instrumental in providing the town with an unusually imposing fire-engine house and headquarters.—S. H. Mildram, who ran as an independent candidate for representative from Ward 24, Boston, at the recent election, was again elected to the legislature. The firm of Rankin ('89), Kellogg ('87) & Crane ('89), architects, 1012 Walnut Street, Philadelphia, has been selected to design the new Mechanic Arts High School at St. Paul, Minn.—The Keller-Pike Company, Philadelphia, general electrical contractors, is responsible for the entire electrical equipment of the new building of the Girard Trust Company, Philadelphia. The United States Mint, National Export Exposition, the State Capitol at Harrisburg are among the large contracts recently completed by this firm.—G. C. Whipple, whose business address is now 103 Park Avenue, New York city, has recently published a book on typhoid fever, and it has received most complimentary reviews. His firm is busy with many designs, notably a mechanical filter plant for Brisbane, Australia, and a sand filtration plant for Toronto, Canada.—Harrison Loring, Jr., is now a counsellor-at-law, having been recently admitted to the bar. The following notice received by the secretary will interest not only '89 men, but all former students of Professor Swain as well:—

On May 7, 1908, Professor Swain delivered an address on the Subway System of Boston before the Brooklyn Engineers' Club, of which Whipple ('89) is president. The meeting was held in the chapel of the Brooklyn Polytechnic Institute, where Spofford ('93) is professor of civil engineering.

Just before the meeting a complimentary dinner was given to Professor Swain by as many of his former students residing in New York as could be gotten together. About fifty were present. The occasion proved a most enjoyable reunion.

The dinner was held in Fraunces' Tavern, New York's oldest hostelry, famous for the farewell dinner when George Washington bade good-bye to his officers.

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1890.

GEORGE L. GILMORE, *Sec.*, Lexington, Mass.

Mrs. Anne M. Calkins, wife of Professor Gary N. Calkins, of Columbia University, died October 18, in a private hospital in Cambridge, where a week before she underwent an operation. Early in the summer Mrs. Calkins came from her home in New York to visit her mother, the widow of Attorney Chauncy Smith, at the family residence, 121 Brattle Street, Cambridge. While there, she became ill.—Under the auspices of the Royal Anthropological Institute, of London, England, Professor William Z. Ripley, of Harvard University, was presented with the Huxley gold medal November 13, and delivered a Huxley memorial lecture dealing with the European population in the United States, in which he pointed out the danger of the physical submergence of the English stock in the United States and Canada by the flood of continental European peoples, arising from the declining birth-rate of Anglo-Saxons as compared with the birth-rate of other immigrants.—Mr. W. I. Finch is reported to be at Atlantic City, N. J. This is the first report we have had from Finch since his freshman year at Tech.—Mr. E. H. Brownell is now at the Naval Station at Cavite, Philippine Islands.—Mr. Samuel W. Babbitt, who was a special in the class, died on May 17, 1908.—Mr. F. B. Hall is at 27 William Street, New York, N.Y.—Mr. H. B. Spaulding, the artist, has had an exhibition at R. H. Stearns & Co., from November 12 to 21, of "New England Impressions." Spaulding has had a number of exhibitions this fall, and his work is meeting with great success.—Lieutenant John B. Blood won second prize at the naval rifle competition of the M. V. M. Naval Brigade.—Mr. Gordon Eaton is one of the team of the American Whist Club of Boston to play for the Robinson trophy.—Mr. Calvin W. Rice was secretary of the local committee of New York for the annual meeting of the American Society of Mechanical Engineers which was held in New York the week of December 1. Mrs. Rice was on the Ladies' Reception Committee.

1891.

HOWARD C. FORBES, *Sec.*, 88 Broad Street, Boston, Mass.

Garrison is interested in an Art Marble Company, with works in South Brooklyn, N.Y., where E. G. Thomas ('87) is superintendent. They have a process for turning out marble of the most

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beautiful colors and designs, comprising tiles, clocks, book-holders, columns, etc. They are just being marketed in Boston among the jewellers and stationers. They have a room at 33 Broad Street, Boston, devoted to the marble products. Charles Aiken ('91) is constructing some special machinery for their use. The Choral-celo Manufacturing Company with whom Garrison is associated is just completing its new two-key manual instrument, which will be made public in the spring, when instruments will be ready for delivery. It has been called by experts the greatest musical instrument in the world, and is the culmination of twenty-one years of the inventor's work.—Fiske writes:—

You probably will be interested to learn that on January 1 I shall make a change in my business and leave the Phœnix Insurance Company to go with Henry W. Brown & Company, of Philadelphia, fire insurance agents and brokers. I shall have charge of their branch office in New York at 100 William Street. This is an old-established firm, who make a specialty of handling large accounts, acting as brokers for the property owner in all matters connected with their fire insurance. They also act as fire protection engineers in showing how to construct and protect property so as to obtain the lowest insurance rates and at the same time secure the best indemnity.

I hope you and the rest of the boys will remember the New York address, 100 William Street, and drop in and see me when in "the big city." I shall probably not move my family from Hartford until next spring, and have not yet decided just where I shall make a home, but it will be in some one of the suburban towns or cities.

I received your letter regarding advertising in the REVIEW, and will at once take it up with the firm, and let you know the outcome. I have always been interested in the REVIEW, and want to see it grow and succeed even more than in the past.

1892.

PROF. WILLIAM A. JOHNSTON, *Sec.*, Mass. Inst. of Tech., Boston.

Ambrose Packard writes: "I was in Elizabeth, N.J., and ran across E. R. French, who is now assistant superintendent, Central Division Public Service Corporation of New Jersey." He says he often sees C. H. Bigelow, who is inspecting engineer with L. B. Stillwell at Hudson Companies Power Station.—George O. Bassett has been transferred to the New York office of the Western Electric Company. His present address is 463 West Street, New York city. —Edward C. Wells was most seriously injured in a street-car accident at his home, Quincy, Ill., on the morning of Oct. 29, 1908.

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Two cars, each behind time and running in a heavy fog in opposite directions on a single track, were trying to make different switches, when they collided, and the car in which Wells happened to be riding on the front platform was telescoped, and the motorman of that car was injured so that he subsequently died. At the first shock Wells was apparently thrown forward and then drawn backward through the closed door of the car. He was quite badly cut about the face and head by falling glass, and was very seriously bruised on the hip, leg, and foot, and it is probable that his life was saved only by the fact that he was standing in front of the door, otherwise he would have probably been crushed against the end of the car. Wells was at once taken to a hospital, where for a time his recovery seemed doubtful, but he soon began to show signs of improvement, however, and, although he suffered greatly for a time, he was well out of danger and was able to sit up in less than four weeks. At the time of his accident Wells was making arrangements to move from Quincy to Birmingham, Ala., where he had accepted the position of general superintendent and chief engineer of the Hardie-Tynes Manufacturing Company, a firm building engines, hoisting apparatus, air compressors, and general machinery. It is understood that he will go to Birmingham as soon as his injuries will permit.

1893.

FREDERIC H. FAY, *Sec.*, 60 City Hall, Boston, Mass.

Pearl-hunting with the X-ray, an invention of John I. Solomon ('93), is a process which promises to not only revolutionize the pearl fishing industry, but will probably be the means of preserving the pearl oyster, which to-day is rapidly becoming extinct. So important is Solomon's invention that a paper describing it presented by him before the International Fishery Congress in Washington last September, and entitled "A Process for Preserving Pearl Oyster Fisheries and for Increasing the Value of the Yield of Pearls Therefrom," was awarded, by the International Jury of Awards, the prize offered by the New York Academy of Sciences "for the contribution not entered in competition for any other award, which shall be judged to have the greatest practical value to the fisheries or fish culture." From earliest times pearls have been obtained from the pearl-bearing oyster by naked diving, and so long as this was the only means employed, the supply of pearl oysters remained abundant, for only the shallow depths were reached, and these were

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worked in a hap-hazard manner. With the introduction of modern diving apparatus, however, the old natural beds have been completely stripped, and others at greater depths, formerly inaccessible, are being depleted in the same way. The Europeans formerly engaged in the business are seeking other occupations, and to-day most of the pearl fisheries of Eastern waters, with the exception of Ceylon and the Persian Gulf, are in the hands of the Japanese and Chinese, who are the only people willing to work for the meagre returns which the business pays. The statement has been freely made in the past few years by prominent dealers of Europe and America, that no large pearls would ever again come to market except those in the possession of European magnates and potentates, who would be induced to part with heirlooms, possessed in their families for generations, by the extravagant prices offered. Up to the time of Solomon's invention, all of the fished oysters had to be killed before it could be discovered whether or not they bore pearls, and the idea of conserving the pearl oyster business and solving the problem of seeking pearls and shells by any method other than the ruthless destruction of the natural beds seems never to have entered the minds of those engaged in the industry. Ninety per cent. of these oysters have no pearls whatever, and of the remaining ten per cent. only a small portion have pearls of size to be of real market value. Solomon conceived the idea of utilizing the X-ray for preventing the losses and wastes of present pearling methods and for increasing the yield of fine pearls. Briefly stated, his invention consists in exposing the oysters to the X-ray, by which process the life of the oyster is uninjured. The ninety per cent. which have no pearls are returned to the sea in the hope that they may be inoculated with the pearl-inducing cestode, or that they will at least propagate the kind and maintain the number of oysters growing on the banks. Of the remainder those only are selected which are found to have pearls of large size. The others in which the pearls are in the formative process are put into special beds, and carefully guarded and examined from time to time until their pearls have become of sufficient size for the market. To successfully carry out the work, it is necessary to make X-ray exposures from a large area in order to examine a sufficient number of oysters at an exposure, this area being much larger than had been before attempted or required in the field of surgery. Solomon succeeded in devising a special apparatus by which the oysters are arranged in trays, and are radiographed upon a photographic plate, the tray being identified by means of a metallic number or other distinguishing mark, which will show on the plate when the

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latter is developed. The tray of oysters is left undisturbed until the plate has been developed, when those oysters in which pearls are indicated upon the plate may be separated from the rest. Solomon organized the International Pearl Company of New York, Ceylon, and Burmah, of which he is president. In 1907 he went to Ceylon; and, upon the Island of Ipantivu, in the north-western province, near the famous pearl fishery of the Gulf of Manaar, he built a plant at an expense of $50,000 for carrying on the work. This plant has fulfilled all expectations, and has successfully proved the possibility of radiographing pearl-bearing oysters on a commercial scale, thereby disclosing the pearls without injuring in any way the oysters. Solomon came to the United States last fall, and intends to return to Ceylon this winter. Providence permitting, he expects to come back to this country again in a year or so, although he says: "I may not come back. I take great risks, but, as it is all in a day's work, I keep at it."—Arthur Farwell is well known throughout this country and across the sea as an ardent advocate of a distinctive American music. Mention has previously been made in the REVIEW of his remarkable musical researches among the Indians of our western country and of Central America. A great many Indian melodies and songs have been harmonized by him and preserved for all time in his own compositions, and to publish these and other distinctively American music Farwell founded the Wa-Wan press at Newton Centre, Mass., in 1901. This unique organization is for the purpose of studying out a rational basis for a characteristic American music, and it publishes the works of authors expressing such worthy originality. In connection with this work Farwell maintains at his residence in Newton Centre a home for students of music where the student is not only taught to study music, but lives in a delightful musical atmosphere. Farwell is constantly composing songs and orchestral works, and gives lecture recitals upon subjects such as "Music and Myth of the American Indian" and "A National American Music." He is a frequent contributor to magazines, and has recently published an article in the *Atlantic Monthly* on "Society and American Music"; and he has an article in the December *Review of Reviews* on "The Movement for American Music." He is a regular correspondent for *Musical America*, published in New York. As a result of several years' work, Farwell has organized The American Music Society, which has centres in a dozen American cities, whose object is the study and performance of works by American composers and the study of American folk-music. The Boston centre was formed four years ago, and this last year a large New York centre

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has been formed, which is to give three concerts this season. Farwell is president of the national organization and of the Boston centre, while David Bispham is president of the New York centre. In the comparatively few years since his return from European study, Farwell has achieved a unique and notable reputation in the musical circles of Europe as well as this country, and apparently he is as yet only at the beginning of a most brilliant career.—John O. Ames distinguished himself by some remarkable work in the lawn tennis singles tournament of the Longwood Cricket Club last July. His most notable achievement was his defeat of Robert LeRoy of New York, challenger in the national tourney at Newport in 1907, after LeRoy almost had the match in his grasp. With each having two sets to his credit, LeRoy led on the fifth by five games to two, when the tide turned and Ames began a dogged, determined play, mustering all his ebbing strength into his lightning strokes; and, as game after game was called in his favor, the gallery began to applaud the pluck and perseverance of the state champion of Rhode Island. LeRoy never got another game after he had won five in the fifth set, Ames winning the set and the match.—E. B. Carney writes that the Lowell Institution for Savings, of which he is treasurer, was the first savings institution in Massachusetts to take advantage of the statute passed last spring allowing savings banks to establish branch depots for the receipt of deposits. Carney says:—

> Through the kindness of J. C. Abbot and C. G. Sargent (both '93 men) we take deposits at Forge Village and Graniteville at the factories there once every week, and the operatives seem to appreciate the chance to save. Some one from the bank goes up there on the afternoon of pay-day, and the results are really astonishing.

—William W. Crosby was engineering expert for the defendants in the famous "Mercerizing Suits" in which a decision in the defendants' favor was rendered last summer by Judge Lowell in the United States Circuit Court at Boston. The mercerizing process, which was discovered over half a century ago, was much improved in the eighties and many manufacturers were using it freely. Certain patents were taken out in the nineties, and suits brought against the manufacturers as infringing these last patents. Crosby did a large amount of research work for the defendants, covering several years, and was one of the expert witnesses. As a result of the decision, the process is now free to all manufacturers. Crosby is associated with F. W. Dean, mill engineer and architect, 53 State Street, Boston.—Herbert N. Dawes, vice-president of the Night-

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ingale & Childs Company and secretary of the Dominion Asbestos Company, Ltd., writes:—

I have gone into another business as a side issue, that of raising fruit down in Porto Rico. I am president of the Cerro Gordo Fruit Company of San Juan, Porto Rico, and Boston. Our plantations are at Bayamon, Porto Rico, about seven miles from San Juan on the Mayaguez-Aricebo military road. We expect to have our first crop of pineapples and grapefruit shipped north next spring and summer. We shall put up a pineapple canning factory at Bayamon, probably in 1909. I spent the month of March, 1908, on the island, and was impressed with the possibilities there in the fruit business as well as in other agricultural lines. The soil, climate, and labor conditions are ideal.

—Philip B. Day is the southern sales agent for the automobile department of Studebaker Brothers Manufacturing Company of Chicago, his address being P.O. Box, 327, Memphis, Tenn.—J. W. Ellms writes:—

The new Cincinnati Filtration Plant is located about eight miles above the city. I have been superintendent of this plant ever since it was started in October, 1907. It is a very large plant, having a capacity of 112 million gallons of filtered water per day, and is unusually well equipped. Several new departures in filter construction were made in designing and building this plant, one or two of the most radical of them being based upon experimental investigations which I had myself carried out. These changes have proved phenomenally successful, which, of course, is not a source of sorrow to me personally. The citizens of Cincinnati are just as proud of their clear, pure water supply as they are of the new President-elect, which is saying a good deal.

—The address of William B. Gamble is 31 Home Bank Building, Detroit, Mich.—Edward M. Hagar, president of the Universal Portland Cement Company of Chicago, writes in response to the secretary's inquiry:—

I have been so exceedingly busy that I have little news to give you of any other Tech man, and I can only say that I have succeeded in running all our plants full during the last year, and am now engaged in spending $2,400,000 increasing our Pittsburg plant from 4,000 barrels to 10,000 barrels a day. When this extension is completed, we shall have a total output of 23,000 barrels a day or 8,000,000 per annum, which is one-sixth of the entire output of the country. As you probably remember, my brother-in-law, E. D. Barry ('95), is superintendent of our Pittsburg plant, and has charge of the construction of the addition.

—Frederick H. Howland, who last year was engaged in the business

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of planter at Los Palacios, Pinar del Rio, Cuba, gives his new address as 15 South Street, Baltimore, Md., and his occupation that of farmer.—Simeon C. Keith, Jr., chemist and industrial biologist, has moved his office from 15 Ashburton Place to 88 Broad Street, Boston, Mass.—Ervin Kenison, for many years instructor in mechanical drawing and descriptive geometry at the Institute, has this fall been promoted to an assistant professorship.—W. T. Knowlton, president of the Technology Club of Southern California, has an interesting letter under the news of that club, elsewhere in this number, in which he speaks of the club's annual meeting, which was about to be held on the top of Mount Wilson. Professor George E. Hale ('90), in charge of the Mount Wilson observatory, containing the world's largest telescope, was to entertain the club at a banquet; and the party was to include Gaylord, Knowlton, and F. H. Merrill, of '93. Knowlton is the Tech representative upon the executive committee of the New England College Club which has recently been formed in Los Angeles. A daughter arrived in Knowlton's family in the early fall. He has one other child, a daughter of nine years.—Harry N. Latey is a member of the firm of Latey & Slater, consulting engineers, 100 Broadway, New York, N.Y.—John W. Logan has been promoted to the position of assistant general manager of the steel works department, Alan Wood Iron and Steel Company, Conshohocken, Pa.—Frederic W. Lord writes, "I am the very properly proud father of twin daughters, born Jan. 19, 1908." These young ladies are the Misses Anne Kirkham and Mary Kirkham Lord.—B. M. Mitchell is president of the Conveying Weigher Company, 90 West Street, New York, engineer for the Manhattan Rubber Manufacturing Company of Passaic, N.J., and engineer of tests for the New York Lubricating Oil Company, New York.—On September 30 Henry A. Morss accompanied Charles J. Glidden on the latter's twenty-first balloon ascension, which was made from Springfield, Mass., at 2.35 P.M. in the balloon "Boston." The flight was a beautiful one as the balloon sailed away from the city toward Chicopee. The atmospheric conditions were perfect, except that adequate wind was lacking. During the afternoon Mr. Glidden tried from 400 feet to 3,450 feet in an attempt to find an air current which would carry the balloon in some direction, it mattered little where. There was some little wind at 3,200 feet and more at 1,200 feet, and this was finally tried with the result that the balloon went toward Granby from Holyoke. As it approached Granby, Mr. Glidden decided to descend, and he therefore dropped the balloon until the drag ropes were trailing on the ground. This fact caused

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a landing sooner than expected, however, for the drag ropes wrapped themselves around a barbed-wire fence, and lifted it out of the ground for a distance of about thirty feet. Mr. Glidden called to a crowd of boys, who were following the balloon, to get the ropes from the fence so that the balloon could rise again, but they could not free the ropes, and the gas bag soon descended. As it touched the ground, the boys, who had gathered, grabbed it, and carried it along, the gas in the balloon supporting most of the weight. At the request of Mr. Glidden they carried the basket several hundred feet to the top of a hill where there was an open space, and there Mr. Glidden pulled the rip cord and the gas left the bag. In a short time the bag was packed away in the basket and stored in a neighboring barn, and Mr. Glidden and Morss returned to Springfield in an automobile which had followed them all the afternoon. Morss is enthusiastic over this his first ascension. Not content with his victories on the sea in the schooner yacht "Dervish," the flagship of the Corinthian Yacht Club fleet, of which club he is commodore, it is reported that Morss is to make other ascensions until he receives the certificate of the Aero Club as a pilot of the air.—William S. Resor has left the Chicago Telephone Company to take up the manufacture of automobiles in Chicago. His address is 435 South Humphrey Avenue, Oak Park, Ill.—Henry L. Rice is president of the Illinois Gas Association. A paper written by Rice on "High Pressure Gas Distribution," presented at a recent meeting of the American Gas Institute, was awarded the Beal medal which is yearly offered by the Institute for the best technical paper. Rice is general manager of the Western United Gas and Electric Company of Aurora, Ill.—Howard L. Rogers resigned in September as captain of A Battery, 1st Battalion, Field Artillery, M. V. M., in which organization he had served for nine years in all grades up to that of captain. Rogers is vice-president and treasurer of the Stone & Webster Engineering Corporation, 147 Milk Street, Boston, Mass.—Charles M. Spofford, professor of civil engineering at the Polytechnic Institute of Brooklyn, N.Y., spent the whole of the past summer with other engineers in the investigation of the strength of the new Blackwell's Island bridge over the East River, New York, which is one of the heaviest bridges in existence. Spofford and Mr. C. W. Hudson were associated with Boller and Hodge, who made a report upon the structure to the commissioner of bridges, and Spofford and Mr. Hudson developed independently the formulæ by which the stresses in this huge and indeterminate structure were computed. They had charge of the calculations of the stresses in the bridge trusses, and the

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results of their work were published in the *Engineering News* of Nov. 12 and 19, 1908, and form a valuable contribution to the literature of cantilever bridges. Spofford has opened a consulting office in the Hamburg American Building (45 Broadway, New York), where he carries on consulting work in addition to his work of teaching at the Polytechnic Institute.—John F. Tomfohrde, attorney-at-law, has moved his office to 25 Main Street, Charlestown, Mass. His home address is 19 Fenwick Street, Somerville, Mass.—S. P. Waldron, engineer with the American Bridge Company, has moved his office from 42 Broadway to 30 Church Street, New York City. Waldron's home address is 107 North Maple Avenue, East Orange, N.J.—At the annual convention of street railway interests at Atlantic City last October, Robert N. Wallis, of Fitchburg, Mass., treasurer of the Fitchburg & Leominster Street Railway, was elected president of the American Street and Interurban Railway Accountants' Association. This is an active organization with a membership covering the whole country, Canada, and various American dependencies. The office of president of the Accountants' Association carries with it *ex-officio* membership upon the executive committee of nine of the larger and parent organization known as the American Street and Interurban Railway Association. Last year Wallis was first vice-president, and, because of the resignation of the president, acting president, of the Accountants' Association. —George M. York has been promoted from assistant engineer to assistant general superintendent of plant, American Telephone and Telegraph Company, 15 Dey Street, New York, N.Y.

1894

PROF. S. C. PRESCOTT, *Sec.*, Mass. Inst. of Tech., Boston, Mass.

The selection of W. H. King as a candidate for the Corporation as one of the term members is most gratifying to his old friends and classmates. His record since leaving the Institute has been such as would distinctly fit him for this important position.—J. N. Ferguson is now located at 12 Bridge Street, East Cambridge, in charge of important work in connection with the new Charles River Basin.—A. R. Mackay spent a portion of the summer in Boston. He is now mining engineer for I. M. Taylor & Co., engaged with Hutchinson ('92) in the examination and development of ore properties. A short time ago Mackay left for Arizona, where he is now in charge of an important mine, but it is possible that he will be back in Boston in time for the reunion in June.—W. O. Scott has

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made an enviable reputation in the service of the city of Providence as milk inspector, and as a result of his labors there has been a great improvement in the milk supply of the city.—H. F. Ripley has deserted the bachelors. In September he was married to Miss Gladys Amelia Budgell, of West Somerville. Ripley is much interested in politics, has for several years been chairman of the Republican Town Committee in Hingham, and is also assistant secretary of the State Committee. These duties, in addition to his wool business, keep him busily occupied; but he still seems to remember his old friends.—S. G. Reed, president of the German-American Bank of Portland, Ore., is in the East, combining a business trip with a visit to his old home and associates. He expressed surprise and great interest at the development of the Institute since he left Boston, and also spoke highly of the regard for the Institute in the far West. Ninety-four is sure to be well represented at the reunion in June. As it is our own fifteenth anniversary, a celebration of that event will be in order, as well as attendance at the general reunion affairs. As soon as the plans for the general reunion are formulated, a central "committee," consisting of all those present at the dinner last June and a few other local representatives, will take up the matter of a special class celebration. It is hoped that we may have a day together at least, and indulge in the games and other forms of enjoyment that characterized the undergraduate days. The secretary would be very glad to receive suggestions as to what can be done; and, as this number of the REVIEW goes to all members of the class whose addresses are known, opportunity is taken to advise all '94 men as to the reunion and to urge their attendance.—R. S. Weston has recently published a long and very important paper on the "Occurrence of Iron in Waters and its Removal." The paper will appear in parts in the *Journal of the American Society of Civil Engineers*.—D. C. Chaffee was recently heard from at his old home in Shelbyville, Ind.—F. C. Green is president of the Commercial Engineering Company, 2 Rector Street, New York city.

1895.

CHARLES H. PARKER, *Sec.*, 39 Boylston Street, Boston, Mass.

The secretary sincerely hopes the other members of the class have been as busy as he has been. If they have, they haven't had time to grumble at the weather or anything else. It is hoped to start the monthly dinners at the Tech Club in Boston in January,

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and notices will be sent later to the near-by members of the date. Monday, the 18th, seems like a good time, and any out of town members likely to be here at that time should let the secretary know in advance, if possible, but, if they cannot do that, come anyway. Recent changes of address: J. Winfield Cook, Chico, Butte County, Cal.—Fred B. Cutter, Diehl Manufacturing Company, 128 Essex Street, Boston, Mass.—Fred W. Draper, care Poklewsky-Kosell, Ekaterinburg, Department of Perm, Russia.—Milton L. Fish, 33 Ketchum Place, Buffalo, N.Y.—William P. Robins, 29 East 28th Street, New York, N.Y.—Frank B. Sherman, 205 La Salle Street, Chicago, Ill.—Alfred L. Simmons, Resident Engineers' Office, Cutler Building, Rochester, N.Y.—E. L. Wengren, 57 Exchange Street, Portland, Me.

1896.

PROF. CHARLES E. LOCKE, *Sec.*, Mass. Inst. of Tech., Boston, Mass.

Professor Bradley Stoughton is severing his connection with Columbia School of Mines in order to give his undivided attention to his commercial work, in which he is associated with Professor Henry M. Howe, the eminent authority on iron and steel.—Mr. M. A. Sears is spending the winter in Boston, being engaged in special work in the mining laboratory at the Institute. He still maintains his office in New York.—Dr. J. Arnold Rockwell has just announced that he will offer for competition the Rockwell challenge cup as a trophy for Institute runners. This trophy is to be held permanently by the man who wins it each year, which means that Dr. Rockwell is prepared to furnish annually a new cup for competition. The class of '96 will be interested to learn that Dr. Rockwell's record for the "quarter-mile" still stands unbroken at the Institute.—The writer received a call from Morton C. Tuttle, who was with us in our early years and later went to Dartmouth. He is secretary of the Aberthaw Construction Company at 8 Beacon Street, Boston. He has been making a study of the use of concrete and steel in mining work.—Joe Knight has sent out announcements of the formation of a partnership with Charles A. Snow under the firm name of Snow & Knight, with law offices located at 50 Ames Building, Boston.—Congressman Butler Ames has figured extensively in the newspapers this fall, first because he received the nomination for Congress from both the Republicans and from Democrats, the last not without some opposition, however. The latest report from him is that he has constructed an aëroplane, and experi-

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mented upon it at the links of the Longmeadow Golf Club in Lowell, Mass. It is still in the experimental stage, but it is reported that the tests so far have been satisfactory.—Frank E. Guptill, who has just returned from working in the Philippines for two years in connection with White & Co., of New York, was in Boston early in December for a brief visit, and made a call upon some of his old friends.

1897.

JOHN ARTHUR COLLINS, *Sec.*, 67 Thorndyke Street, Lawrence, Mass.

Albert E. Kimberley was married on November 19 to Miss Helen Price, of Bryden Road, Columbus, Ohio. Mr. Kimberley is engaged in special experimental work in water filtration for the Ohio State Board of Health.—Walter B. Russell, formerly with the New York Central Lines as superintendent of apprentices, is now the director at the Franklin Union, Boston, Mass.—Edwin S. Dodge is at present located at the Villa Curonia, Acetri, Florence, Italy.—H. D. Jackson (VI.) is about completing the manuscript for a book to be published by a well-known New York publishing house, early next year. The exact title has not as yet been fixed, but the text relates to electric railways.—C. B. Breed (I.) has been assisting Mr. Jackson by reading the copy.—Wilfred Bancroft (II.) is general sales manager for the Lanston Monotype Machine Company of Philadelphia.—The secretary understands that this issue of the REVIEW is to be sent to every former student of the Institute, so far as possible. This means that many will receive a copy who have never communicated with the class secretary or perhaps have never had a communication from him. This is not strange, as the majority of the class do not reply to notices, etc. It is this fact that for several years has blocked and made impossible the issuing of a class directory that will be of any value. In view of the fact of the coming reunion in 1909, let every man who reads these words and who ever was connected with '97 send a note to the secretary, giving his address, his employment, if married, to whom, and family, if any. He would like to make this column full of news every issue, but gathering items of interest from men scattered all over the country is difficult, unless he can get co-operation from the men themselves. The above applies to all, but particularly to those who were with us but for a year or less.

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1898.

PROF. C.-E. A. WINSLOW, *Sec.*, 157 Walnut Street, Brookline, Mass.

Bodwell was married on the evening of Thursday, October 1, to Miss Henrietta Hilbert Harrison, daughter of Dr. and Mrs. Henry Hilbert Harrison, at 81 South Front Street, Wheeling, W. Va. —Strickland is now with the American Radiator Company as mechanical engineer, at the Detroit plant, under E. A. Sumner ('97), manager, and Anthony ('98), who is superintendent. The combination ought to make things warm.—The Seward (Alaska) *Gateway* of Aug. 1, 1908, had the following reference to Pillsbury: "Dawson: Major W. R. Richardson, in charge of road construction in Alaska, and Captain Pillsbury, assistant to the major, passed through Dawson, on the 'Sarah,' bound for the lower Yukon. Major Richardson goes to Nome, and Captain Pillsbury will stop at Circle. George Pulham is at Circle, in charge of the road work in that district. Captain Pillsbury will sever his connection with the road commission shortly, to go to West Point, where he will be an instructor. He enjoys the honor of having the highest general average of any student that ever passed through West Point in the engineering course."—Peckham writes as follows from the F. W. Woolworth Company Five and Ten Cent store, 1020–1024 Market Street, Philadelphia: "Enclosed please find $2 for copy of class book just received. It is the first one I have had, and I shall certainly wish to have it come to me each year. Shall also be glad to furnish a little more information concerning the writer. Although I did not finish out with the boys of '98, I have made good in the business world. I have now the management of one of the four largest stores in our syndicate of more than two hundred, and my present address is Philadelphia, where future communications may be sent."—Steffens writes from Johnson City, Tenn., where he is at work on the construction of the Carolina, Clinchfield & Ohio Railway: "I am glad to receive copy of the class book for this year. The committee deserve the thanks of all for the time and thought spent in compiling and publishing this valuable information. I read with much interest what our fellows are doing, and the general average may be considered as fairly high. Those of our class who hover around the shadow of the old buildings cannot appreciate the enjoyment of the distant ones in reading of the successes of the old familiar names. We are busier than ever now, trying to open this new road at the earliest possible date. When we are actually operating over the wonderful line, in and out and through

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mountains, I hope that you may be able to pay us a visit. This climate is truly splendid."—The first informal reunion for the winter was held at the new Tech Union on Trinity Place on the night after Thanksgiving. Humphrey gave his famous lantern talk about the opening of the Cherokee strip in Oklahoma. Humphrey, by the by, had a capital article on "Automobile Selfishness" in the November *Atlantic Monthly*.—Godfrey's novel, "The Man who ended War," was among the "six best sellers" in Boston during the early weeks of December.—Cotter was married Tuesday, November 17, at Melrose, Mass., to Miss Lavinia Wilson Smallwood, daughter of Mr. and Mrs. Thomas Smallwood. Mr. and Mrs. Cotter will be at home on Wednesdays after February 15 at 12 Harvard Street, Somerville.—Long sends a change of address to 49 Butler Street, Kingston, Pa.—Franklin's address is now 181 West 135th Street, New York city. '98 men will be sorry to know that on August 14 last he lost his youngest son, Gordon Ordway, aged one year and six days.—Priest sends a new address, 30 Church Street, New York city.—Allston Sargent has been very busy in the movement for a joint club-house for alumni of Amherst, Brown, Dartmouth, M. I. T., Wesleyan, and Williams in New York. He is chairman of the Joint Committee from the various alumni associations which has the matter in active charge.—At the second annual convention of the Illuminating Engineering Society, held at Philadelphia, October 5,

Messrs. J. R. Cravath and V. R. Lansingh presented "The Calculation of Illumination by the Flux of Light Method." Their method, an adaptation of earlier proposals, depends primarily in finding the total flux of light thrown out, between certain limiting directions, by the light source with its shades, etc. The unit of luminous flux, the lumen, has been already defined as that passing from a 1 candle power source to an area of one square foot at a distance of 1 foot from the source. This area also has an illumination of one candle-foot. Average candle-feet may be determined by dividing total lumens received by the area in square feet. Total lumens emitted by a source are numerically equal to 12.57 times the mean spherical candle-power, from the relations of solid angles. The authors show graphical means of easily finding the total lumens emitted by a source in the direction of the lighted area. This figure divided by that area gives the desired value of average illumination. The effect of ceilings and walls in reflecting light not thrown in the direction of the lighted area is neglected.—*Engineering News.*

—H. W. Jones writes as follows from San Francisco, under date of November 20:—

I am just sending you a few bits of news of myself before leaving on a

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tour around the globe. I was mighty sorry that circumstances prevented me from attending the reunion of the class this year. I know only too well what I missed, and, worst of all, it is missed forever, but we can't help those things once in a while. I am already planning to get there on the occasion of the 15th,—rather a long ways to look ahead. My brother also missed it, I see, as his name was not there, and it seems as if the Jones family fell down in patriotism; but, as I believe he sailed for Europe a day or so after the meeting, I presume he found it impossible to get there.

A few months ago, when I was in Honolulu, I looked up Norman Watkins of '98, Course V., and we had a small reunion on the spot, even though there were only two of us. He took me around the country for several hours, and we passed a very pleasant day indeed. He seems to be doing very well, and is happy and contented. He sent his regards to all back in Boston in case I got there before he did.

I leave here on the 5th of next month for a trip around the world, visiting China, Burmah, India, Ceylon, Egypt, Europe, and *Broadway*, New York! I expect to represent the army at the forthcoming meeting of the Bombay Medical Conference, and to read a paper there about the latter part of February. I am planning to pass some time with my younger sister in Germany (she has been there nearly three years now). Then I shall spend a few weeks in England with some friends, and expect to reach Boston about the first of June. After that I have to go to Washington for an examination for promotion, and then I don't know what will be the next step. I shall see you in June if all goes well and I am not lost overboard from some of the numberless "windjammers" and "limejuicers" I shall undoubtedly embark on during the next few months.

—'98 men will greatly regret the sad news that Herbert F. Cobb (Course II.) died in Chicago on Wednesday, December 2, from typhoid fever. He was buried at Newton, December 6, Clifford, Coburn, and Blanchard being among the pall-bearers. Cobb was connected with King, Bridge & Co. in Chicago. He left a wife and one son, ten months old.

1899.

HERVEY J. SKINNER, *Sec.*, 93 Broad Street, Boston.

Mr. and Mrs. John W. Woollett are entertaining a new arrival at their home in Albany, N.Y., a young son, born on December 5.—An interesting letter was recently received from James A. Patch, who is professor of chemistry in the Syrian Protestant College at Beirut, Syria. Patch writes of the conditions in that country as follows:—

We are in a part of the world where things are doing nowadays. "Ha-

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reeyeh" (liberty) is the great cry. We haven't yet become used to the new order of things. Daily newspapers sold on the street, telephones, free speech, no spies,—it isn't natural. A fine study in psychology was offered by the effect of the proclamation of liberty on the various peoples which make up the Turkish empire. Everywhere the most noticeable effect was the renewal of amicable relations between the Moslems and Christians, who for more than three decades have been pitted against each other as a government policy. To see a Moslem sheik embrace a Christian bishop before the assembled multitude, and call him his brother, was a sight that some of us never expected to see.

The coming months are going to be a period of severe testing for an empire which has been degenerating so long. Our sympathies are all with the Young Turks. There are sturdy men among them. Many we have come to admire by association with them.

Last summer Patch was appointed as consulting chemist with a commission sent by the Board of Health of Constantinople to settle upon a suitable place for a quarantine station for retaining the returning Mecca pilgrims. The party travelled within one hundred and fifty miles of the sacred city of Medina and were among the first foreigners to penetrate that portion of Arabia undisguised. Patch has also designed a sewage filtration system for the college buildings. The system is the first thing of its kind in that part of the world.—Barry writes that he is still working in the Pennsylvania Railroad tunnels under the North River. The compressed air work is done, and the concrete work is being pushed rapidly ahead.—Swan has returned to the Institute after a year's leave of absence. He has been taking up graduate work at Harvard, and has received the degree of Master of Science.—Heckle was in town during the early part of November, visiting old acquaintances.—C. A. Smith, of Atlanta, Ga., is the happy father of a son, born Nov. 17, 1908. The young man bears the name Carol Mosman Smith.—H. L. Morse called on his Boston friends recently. Morse, who is a first lieutenant in the Coast Artillery Corps, is still located at Fort McKinley, Portland (Me.) Harbor.—Rood is general manager of the Independent Powder Company of Missouri, and is located at Joplin, Mo.—Rickards has resigned his position as bacteriologist of the Boston Board of Health, and has gone to Columbus, Ohio, to take charge of the laboratory of the Ohio State Board of Health. Rickards has been very successful in Boston, and a high compliment was paid him by the efforts of the present board to retain him in Boston. His new work offers a much broader field, and in addition to the bacteriological laboratory he will have charge of another laboratory, devoted to water and sewage problems.

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1901.

R. L. WILLIAMS, *Sec.*, 30 Waban Hill Road, Chestnut Hill, Mass.

Harold B. Wood is now manager of the Gifford Wood Company at Hudson, N.Y. He was married in 1902, and has one child, William P. Wood, born in 1905. Wood has written a series of articles for a trade journal on "Modern Methods of Harvesting Ice."—W. Fred Davidson is located with the Pennsylvania Engineering Works, New Castle, Pa.—A. W. Higgins may be found at St. Louis, Mo., where he is chief engineer of the E. H. Abadie Company. He has one daughter, born March 10, 1907.—Mr. and Mrs. Charles Ripley, of Boston, have announced the engagement of their daughter, Miss Helen, to Mr. Frederick G. Clapp, formerly of the United States Geological Survey, but now senior partner in the firm of Clapp & Bee, Pittsburg, Pa. Clapp has been recently making an expert examination of oil and gas properties for various companies in Pennsylvania and West Virginia. The firm has proved a success from the start.—W. J. Sweetser writes from Burlington, Vt.:—

I am at present surrounded by the Green Mountains on the east and south, by Lake Champlain and the Adirondacks on the west, and by Lake Champlain and the Green Mountains on the north, and I am completely hemmed in by the M. E. students *et al.* in the University of Vermont. Professor Robinson, who is in charge of the department here, has taken a yearly leave of absence, and I have undertaken to keep the boys busy from other things while he is away.

—"Mr. and Mrs. William Berry Hughes announce the marriage of their daughter Emma Jane to Mr. Norman Locke Skene on Wednesday, October the twenty-eighth, nineteen hundred and eight, Bedford, Massachusetts."—Chester N. Chubb is superintendent of the Sioux Falls Gas Light Company, South Dakota.—F. W. Freeman is general manager of the Ætna Woollen Mills. He is married and has two children.—John A. Trott is superintendent of the Riverside Boiler Works.—Francis B. Driscoll as traffic engineer for the American Telephone and Telegraph Company is kept busy outlining the traffic requirements for present and proposed types of equipment and standardizing the methods of operation of the Bell Telephone Companies throughout the United States and Canada.—The following changes in address have been received: Anthony W. Peters, care of L. N. Fornum Company, Dumner, Vt.—Charles E. Martin, 27 Hewins Street, Dorchester Centre, Mass.—H. Macneil, Box 54, Chipman, N.B.—E. P. Fleming,

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Garfield Smelter, Garfield, Utah.—F. S. Clapp, 610 Fitzsimons Building, Pittsburg, Pa.

1902.

F. H. HUNTER, *Sec.*, 75 Park Street, West Roxbury, Mass.

On the 19th of November an informal dinner of the class was held at the Hotel Plaza, Boston, with twenty-one men present. During the dinner there were songs, also a brief talk from the secretary upon the affairs of the class, and a very interesting word from "Doc." Williams upon the new Tech Union and its effect upon the student life of the Institute. Williams urged all members of the class who could do so to drop into the Union for lunch or dinner, and see for themselves the good it is doing. After the table was cleared, there was a vaudeville entertainment, which was followed by songs and stories. Those present were Ames, Ballard, Chalifoux, Collier, Finneran, Hall, Hooker, Hunter, Mahar, Manley, Mardick, Nickerson, Patch, Ritchie, Robinson, Jimmy Smith, Stillings, Trowbridge, Walker, Doc. Williams, and Bill Williston.—The number of weddings taking place among our class indicates a wave of prosperity.—E. S. Baker was married on October 21 to Miss Grace Bentley Lindley, of New Haven. Ned and his bride are making their home at 52 Shepard Avenue, East Orange, N. J.—Nickerson's many friends were surprised to receive the announcement of his marriage, which took place upon the same day as Baker's. The now "Mrs. Nick" was Miss Florence Gertrude Sawyer, of Boston. They will be glad to see their friends at 108 Winthrop Road, Brookline.—Dick Reed is another member of the "Bachelors' Alliance" who has deserted. On November 9 he wedded Miss Eleanor Wilde of Canton, Mass. The ceremony took place in Chicago, where the happy couple are now residing.—On November 18 Magrane married Miss Monica Markey, of Brooklyn. The wedding, which took place at the Church of St. Francis Xavier, was followed by a reception at the home of the bride's parents, 156 Eighth Avenue, Brooklyn. Mr. and Mrs. Magrane will reside at 63 Rawson Road, Brookline, Mass.—From Portland, Ore., MacNaughton reports the birth of a son, Boyd MacNaughton, who arrived last May. On the occasion of Dean Burton's recent visit to Oregon and Washington the Technology Club of Oregon was formed at Portland, and "Mac" and his partners, Raymond ('02) and Lawrence ('01), were actively interested.—Another '02 man should shortly be a member of this youngest

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Technology Club, for H. F. Daly, who has been in Wakefield, Mass., for the last two years, is returning to his former residence at Portland. His address after January 1 will be 222 Failing Building. On his way from Boston, Daly went through New Orleans, and took a side trip of nearly a month through Mexico.—H. E. Bartlett has left Boston for Washington, D.C., where his address is 1626 S Street.—Pember has moved his residence from Johnson City, Tenn., to Bristol, Va. He still maintains offices in both cities, and reports a growing business in both architectural and engineering lines.—Galaher reports a daughter born on November 3.—The firm of Sherman & Edwards has dissolved partnership, Sherman going on at the same address. Edwards is shortly going to Jamaica for a few months to make some investigations in his line of work.—The engagement of Lowe to Miss Natalie Wells, of Fitchburg, was recently announced.—About the first of the year a general circular will be sent out from class headquarters, giving a report of class affairs up to date.

1903.

FREDERIC A. OLMSTED, *Sec.*, 93 Broad Street, Boston, Mass.

The first informal reunion of the members of the class in the vicinity of Boston was held at the New Tech Union, Saturday evening, December 12. President Critchett, of the present Senior Class, was with us as our guest, and told us of the many changes that are now taking place among the undergraduates of the Institute. The evening was enlivened by many songs, and was the best yet. Nutter told of the work which is now in progress on the Class Record Book, and much interest was shown in the coming publication. The men present were: Aldrich, Atwood, Bartlett, Capelle, Clark, Comer, Cushman, Gleason, Gould, Loughlin, Mason, Newman, Nutter, Nyhen, Olmsted, A. P. Rice, and Swett. It was decided to have the next reunion on the evening of January 30, and Bartlett, Clark, and Gleason were appointed as a committee to have it in charge.—Swett and Yerxa spent the summer together in Europe. They went to Liverpool, London, Paris, up the Rhine to Switzerland, into Italy and to Venice, back through the Dolomites to Munich, Nuremberg, Berlin, and Holland, and then to England. They had a very enjoyable trip, and Swett says that it was hard to get Yerxa away from Paris. Yerxa is now with the Miami Copper Company at Globe, Ariz.—Hayden writes from the Philippines that he expects to remain there a couple of years longer, and sends

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his regards to the fellows. He is now district engineer at Albay, Albay.—Gould is engineer with the New England Telephone and Telegraph Company in the Manchester (N.H.) district.—Gilker is with the same company as traffic chief of the Boston office.—Mears is now sales manager for the Ellis-Chalmers Company, with headquarters in Dedham, Mass. He expects to be in Chicago until April.—Picard is president of the Picard-Law Company, consulting and analytical chemists, with office and laboratory at 231½ Marietta Street, Atlanta, Ga.—Hamilton is at present studying law in the New York Law School, having recently resigned from his position as first lieutenant in the United States Marine Corps—Babson is now vice-president of the H. and Rowe Calk Company, of Hartford, Conn.—Bacon is treasurer of the National Fruit Products Company, 35 Batterymarch Street, Boston.—H. S. Baker is assistant engineer in the subway division of the Bureau of Engineering in Chicago.—Barrows is now patent attorney with the United Shoe Machinery Company, Boston.—Fletcher is a technical publicity writer in the sales department of Westinghouse Electric and Manufacturing Company at East Pittsburg, Pa.—Fogg was married July 15 to Miss Katherine E. Knight. He is now an instructor in civil engineering at the Pennsylvania State College.—Foster made another change in October, when he left Covington, Ky., to assume the duties of superintendent of the Minneapolis Gas Light Company, Minneapolis, Minn.—Haskell has accepted a position as scientific assistant in the lighthouse service. He is located at Tompkinsville, N.Y.—Gaenslen took a position as assayer with the San Rita Mining Company, San Rita, N.M., September 1.—C. F. Green is resident engineer with the Western Pacific Railway Company, at present located at Long Valley, Lassen County, Cal.—Manahan is now engaged as milling engineer with the Milan Mining and Milling Company, West Mian, N.H.—Mulherin is in charge of the estimating department of the Vulcanite Paving Company, with offices in the Land Title Building, Philadelphia.—Pulsifer is in business at 817 Oak Street, Kansas City, Mo., as a consulting mining engineer.—Sears was married October 27 to Miss Helen Jane McCarthy, and is now living at 6 Brown Terrace, Jamaica Plain, Mass. Mr. and Mrs. Sears have the best wishes of the class for a happy partnership.—Tolman is now instructor in theoretical chemistry at the Institute.—Regan is head of the department of mathematics at the Charlestown (Mass.) High School.—Winchester is assistant manager of the Gabriel Concrete Reinforcement Company, 616 Penobscot Building, Detroit, Mich.—Work on the Class Record Book is now making

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good progress, and the returns are coming in fairly well. By the time the REVIEW is issued, the second call will have been sent out to all members of the class, and it is hoped that there will be a prompt response with information regarding many whose present locations are not known.—It is with deep regret that we have to announce the death of Claude P. Nibecker, who died in Pittsburg, November 10. The funeral was held in Westerly, R.I., November 12. Nibecker's death was the direct result of a hemorrhage or lesion of the brain, but the real cause was overwork. He was the first secretary of the graduate organization, and his death will be greatly lamented by all.

1904.

R. A. WENTWORTH, *Sec.*, Saylesville, R.I.
M. L. EMERSON, *Res. Sec.*, 161 Devonshire Street, Boston, Mass.

A 1904 dinner was held at the new Tech Union on Thursday evening, December 3, under Sweetser's management. The following men were present: Allbright, Chace, Elliott, Comstock, Galusha, Gerry, Hall, Haley, Hartshorne, Haynes, Kalmus, Parker, Rockwood, Severy, Stebbins, Stevens, Sweetser, Tripp. Galusha gave quite a talk on his delightful European trip of last summer, which occupied several months. Kalmus and Comstock spoke very interestingly of their experiences in England and Germany in 1905. Charlie Haynes did his duty at the piano. The reorganization of the Alumni Association was discussed, and informal nominations were made for class representative on the proposed council. It was agreed to have another dinner about the middle of February. Class dues ($1) for the year 1908–09 are now payable, which fact was the point of a circular letter sent to all '04 men on December 7. If this letter has not yet reached you, it is because we have not your correct address.—Harry Stevens underwent an operation for appendicitis which kept him at home for two months, but he was able to get out to the recent dinner.—Severy is back in Boston with the Boston & Albany Railroad. His address is 201 Brighton Avenue, Allston.—Allbright is also in Boston with the J. R. Worcester Company, 79 Milk Street.—Arthur Harrigan is recovering from a severe illness. His present address is "The Oaks," Windsor Park, Chicago. —According to *The Tech*, "Mr. Comstock, of the Physics Department," was one of the ushers at a recent Cleofan reception.—Galusha is working on some electric railroads in Eastern Pennsylvania

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for Stone & Webster.—Phinney has just become draughtsman in the signal department of the Chicago & Northwestern Railway at Chicago. He is living at 241 South Winchester Avenue, Chicago.—Joe Crowell is the proud father of a daughter, now a couple of months old.—P. M. Smith was married at Grosse Pointe Farms, Mich., on Wednesday, November 4, to Miss Alice May Schmidt. On the following Saturday they left New York for Dole (Jura), France, where Pret is to be permanently located with the American Radiator Company.—Letters from various classmates speak most enthusiastically of Dr. Maclaurin's election. In this connection Willard shouts (to his stenographer), "Long live the King!" —Holcombe writes from Washington:—

There is no news. All the '04 men here are too well satisfied to leave and too busy to marry. Back in September, before Wright fell off his flying machine, all Tech men who knew Weaver had free transportation to Fort Myer for the matinée, and during the campaign we were regaled with free lunches at Republican Headquarters, but, since the people ruled Bryan out, the Patent Office has been working overtime to keep up with prosperity and we haven't even followed the football scores. The Tech Club is planning a blow-out for some time in January, when we hope to get Prexy-elect here to receive our assurances of esteem and confidence. All the fellows I have talked with are enthusiastic over the choice, and seem ready to back up with something more than cheers any move he may undertake for a bigger and better Tech.

—P. M. Paine was in Boston a few days ago, just back from his forestry work in Denver.—New addresses are: Miss Eliza Codd, 25 Chestnut Street, Boston.—George A. Curtis, 400 Ford Building, Boston.—W. D. Estes, Box 1035, Hamilton, N.Y.—Reginald Hazeltine, Hub Foundry Company, 251 A Street, South Boston.—W. A. Kemper, Barge Canal Office, Triangle Building, Rochester, N.Y.—William C. Lounsbury, 1024 John Avenue, Superior, Wis.—Hubert Merryweather, care Walter G. Merryweather, Spokane, Wash.—R. B. Pendergast, Citizens' National Bank Building, Los Angeles, Cal.—Arthur O. Roberts, Manchester, N.H.—Clark D. Simonds, Manchester, Vt.—F. N. Turgeon, Juragua Iron Company, Firmeza, Cuba.—The result of a remarkable experiment made by Dr. Kalmus has attracted considerable attention all over the country. A patient having a sore that was diagnosed as lupus was treated by him with ultra violet light in collaboration with Boston physicians. The sore had been unaffected by ordinary forms of treatment available, including X-rays and surgery, and it was greatly increasing in size. A complete cure was effected by Dr. Kalmus's treatment, and another patient suffering

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from the same disease is now being treated in one of the Boston hospitals. Dr. Kalmus is extending his experiment further, and is attempting to determine the effect caused by varying the metals between which the spark is produced, and in determining the wave length of the light that produced this effect and the chemistry of the changes brought about.

1905.

GROSVENOR D'W. MARCY, *Sec.*, 246 Summer Street, Boston, Mass.

On October 1 William Green and Miss Ruth Churchill, of Lowell, were married.—Thomas Shaw and Miss Ada Foster Kennedy were married at Plymouth, Mass., on October 8.—Preston Morris Smith and Miss Alice May Schmidt were married at Grosse Pointe Farms, Mich., on November 4. They have gone to Dole (Jura), France, where Pret is to be with the Compagnie Nationale des Radiateurs, or the foreign manufacturing department of the American Radiator Company.—William H. Beers, Jr., reports the arrival of William H., the third, with an avoirdupois of twelve pounds. Beers, who is biologist in charge of the Columbia (S.C.) filtration plant, wants to know what the population of the class is now at this present moment. This is a hard thing to determine, but we can safely say that the yearly increase is still increasing yearly. We will take a baby census at the big reunion next June, where special auto-go-carts will be provided for their accommodation.—Herman Eisele has gone into business with Juengling ('06), as mechanical and structural designers, the name of the concern being Eisele & Juengling, Century Building, Cleveland, Ohio.—Chester Butman is studying theoretical physics and advanced mathematics at Clark University, Worcester, Mass., and reports that he is enjoying the work very much.—William H. Keen is head chemist with the Firth-Sterling Steel Company, Washington, D.C.—John Ayer is at Rumford Falls, Me., working on a new mill for the International Paper Company.—H. C. Mitchell is instrument man at Tupper Lake, N.Y., for the New York State Water Supply Commission.—Harry Nabstedt is superintendent of construction with the Ambursen Hydraulic Construction Company, and has just returned from Woodstock, Vt., where he has been building a storage reservoir dam, 265 feet long and 25 feet high, of reinforced concrete.—Walter A. Clarke spent his vacation in the Maine woods, where he succeeded in bagging two deer. One of them was a little one, however, according to Stebbins, who also comes from Fore

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River, and he put it back. Early in December Clarke accepted a position as estimator with the Maryland Steel Company, Sparrows Point, Md., and upon leaving was given a surprise farewell dinner by sixteen of the Fore River fellows, at Bova's.—Alden Merrill and Bill Spalding made a trip in October from Buffalo to the copper mines at Houghton and Calumet, Mich., on an ore boat. Bill wrote:—

The copper country is certainly a wonderful place. You wander into 'most any building, and find it crowded up to the eaves with a great giant of an engine, bigger than you ever dreamed of before; you look down a shaft, and are told it is over a mile deep; you visit a stamp-mill, and your head swims at the figures given you about the tonnage, gallons of water pumped, etc. Coming home, we were remarkably fortunate in the weather we had and in escaping from the schemes of the negro cook, who was trying to kill us by stuffing us to death with good things. On board one gets bit by the sleep habit, and I'm too lazy to attempt to write more now. Besides, I only had twelve hours' sleep last night, and my after-breakfast nap was cut short by the dinner bell, so I must begin to catch up a little on this sleep game.

—The secretary had a short note from Bill Motter, who had just got back to Orogrande, N.M., after being out two and a half months in the Sacramento Mountains on a location survey.—R. D. Farrington, member of the Massachusetts bar, has left the United Shoe Machinery Company, and has opened a law office on State Street.—Doc Lewis, in the new Industrial Research Laboratory, is trying to find out what makes tin plate rust, or, rather, what will make it not rust.—Andrew Fisher is with the Amoskeag Manufacturing Company at Manchester, N.H.—The engagement has been announced of Miss Marion Keene Tufts, of West Medford, to George W. Perry.—Arthur C. Long is now with the Marquette, Mich., plant of the E. I. du Pont de Nemours Powder Co.—Leonard T. Bushnell writes from Seattle, Wash., where he is secretary of the Mill Owners' Sprinkler Company:—

Dean Burton was through here a week ago, and stirred us all up to a high pitch of enthusiasm about the Institute, and more particularly the big reunion next June. I hope that we will be able to get all the 1905 men together. Be sure and save a place for me, *as I am coming if I have to walk.*

—Catch this spirit, come yourself, and urge other men who may be in doubt to come. If possible plan to go on the '05 Camping Trip, arrangements for which are being made. Also, '05 man, if you happen to have a Tech man for a boss, put your name on the

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vacation schedule early.—Arthur J. Amberg and Miss Marguerite Elizabeth Brosseau were married on October 14 in Chicago. They will be at home after January 6, at 1515 Montrose Boulevard, Chicago, Ill.—Edward A. Barrier and Miss Isa Duvey, of North Cambridge, were married November 24. Barrier is with the Factory Mutual Fire Inspection Company, 31 Milk Street, Boston.—When the fall cross country handicap 8-mile race was held at the Institute, December 5, E. H. Lorenz came up from Hartford to run with the boys. He proved that he was still in good shape by finishing within 44 3–5 seconds of the previous record, which he made himself in 1904. His record was broken, however, by Howland, 1908, whose time of 46 minutes 23 seconds was 32 seconds less than the old mark.

1906.

GEO. F. HOBSON, *Acting Sec.*, 164 Holyrood Ave., Lowell, Mass.

I. *On the Part of the Secretary.*

On looking over the class catalogue, the secretary was greatly astonished to find how few fellows are living in the vicinity of Boston. Last year there were at least fifteen men to be counted upon for the informal dinners, while this year there are barely six men who live near enough to attend these gatherings. Hence the only way to get class news is through correspondence, and every fellow is strongly urged to drop a note to the secretary every few months. The notices have been sent out announcing the semi-annual dinner, calling for information about the Class Baby, and, last, but not least, calling for the payment of 1909 class dues. We hope replies will be sent in as soon as possible. The Executive Council announces the appointment of Mr. Frank Benham to the post of assistant secretary to complete the term of Mr. W. J. Nicholas, who has left Boston permanently. Our Philadelphia correspondent, Mr. Tillson, writes that an informal dinner of the Technology Club of Philadelphia '06 made a fine showing, with ten men present, as follows: E. S. Chase, Cheney, Dean, Lettig, McGinnis, A. C. Taylor, Terrell, Tillson, Walsh, and N. A. White. He also informs us that they hope to round up a "good" gang of '06 Quakers for the big reunion next June.

II. *Personal Announcements and Notes.*

One of the fellows writes that Charles Hawkes is married and lives in Providence. The same correspondent tells us that L. A.

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Thompson is married, and is now advising all his friends to do the same.—The engagement of C. D. Richardson to Mary G. Stone, of Boston, was announced in September.

III. *Class News and Changes of Address.*

S. T. Carr is at present at the Westinghouse Electric Company at Pittsburg, but is soon to be transferred to their sales department at San Francisco, Cal.—Jimmy Banash, who is just out of the hospital in Chicago, writes as follows:—

> There are very few '06 in this neighborhood, but I see Henius (V.) quite often, as he lives here. I have also seen Mann on the street several times. Cheney (II.) is at South Chicago, I believe.
>
> While I was in East Aurora, N.Y., on my vacation, I telephoned to Morey (Course V.), and he delicately admitted that his wedding was about three days off, and that Norton was there to officiate as best man. On the strength of that I went in to Buffalo, and Morey staked us to a dinner at the University Club.

—Herbert A. Terrell has resigned from the Supervising Architect's Office in Washington, and is now with the air-washer department of the Warren Webster Company. His present address is 317 North 6th Street, Camden, N.J.—W. A. Hardy is now living 1635 Florida Avenue, Washington, D.C., and E. L. Wilson is living at 1201 Q Street, N.W., "The Leumass," Washington, D.C.—George C. Noble resigned from Supervising Architect's Office, July 1, 1908. His present address is Obras Publicas, Construcciones Civiles, Havana, Cuba.—Walter Trask is located in Denver as assistant to the manager of the Denver Engineering Works.—Maxwell A. Coe, Roxton Pond, P.Q., Can.—Ogden R. Adams, 1014 1st Avenue, South Seattle, Wash.—Colly Dill, 80 Rector Street, Perth Amboy, N.J.—W. F. Englis, care J. K. Dimmick Company, Land Title Building, Philadelphia, Pa.—R. J. Barber, correspondent for Course III., writes the following items of interest: "Ralphy" Thayer has just left Boston to take a position with Candelaria Mining Company, San Pedro, Chihuahua, Mex.—Marden Hayward is now in the Garfield Mill of the Utah Copper Company at Garfield, Utah.—Tillson accounts for the '06 Philadelphia "bunch" as below: C. R. Lettig (VI.) is with the sales department of the Westinghouse Electric Company. Address, 1722 Green Street, Philadelphia, Pa.—A. C. Taylor's address is now 3319 North Bouvier Street, Philadelphia, Pa.—C. S. McGinnis is teaching second-year physics at the University of Pennsylvania. Address, 3332 Walnut

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Street, Philadelphia, Pa.—E. S. Chase is chemist-in-charge at the sewage disposal works at Reading, Pa. Address, 200 North 4th Street, Reading, Pa.—H. W. Dean and P. E. Tillson have found that it is cheaper to move than pay rent. Their new address is 419 Y. M. C. A. Building, Philadelphia, Pa.—The secretary was much surprised to receive a letter from H. A. Ginsburg from Washington, D.C. He is stopping with D. C. Davis who was recently married and has settled in Washington. Ginsburg's new address is National Bureau of Standards, Department of Commerce and Labor, Washington, D.C.—A letter was also received from S. C. Allen, 81 Lake Avenue, Rochester, N.Y. Allen is one of the few '06 men who are in business for themselves.—H. H. Brown is becoming what might be called a "multi-editor." He is not only editor of the *Boiler Maker*, but also of the *International Marine Engineering Journal*.—"Bunny" White is now holding down a government job at League Island Navy Yard.—"Ned" Rowe writes a breezy letter:—

I am due for a change of address, as I haven't been in West Newton since last July, when I came here to New York to become one of the Holophane Company's "illuminating" engineers. . . .

G. C. Furness I have just located in Niagara Falls, doing electric furnace work, but haven't heard from him yet. . . .

At the electrical show in Madison Square Gardens, on October 10, I happened to meet Miss Ruggles, and learned that she had resigned from the General Electric Research Laboratory to enter the ranks of the married people. I've heard rumors about the other Cleofans, too!

—Miss Eleanor Manning also sends in some news of the Cleofans, but nothing as startling as above.—Miss Helen R. Hosmer (Course V.) has left the General Electric Research Laboratory at Schenectady and is with Robert S. Weston, expert chemist at 14 Beacon Street, Boston.—Miss Cederholm has left Wellesley College, where she was assistant in chemistry, and has gone to the Maryland College for Women in Lutherville, Md. She is to teach science.—Miss Mildred F. Wheeler, who has been at Mt. Herman for the past three years, has taken a position in the Springfield Technical High School to teach chemistry and physics.

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1907.

ALEXANDER MACOMBER, *Sec.*, 83 Newbury Street, Boston.
BRYANT NICHOLS, *Res. Sec.*, 138 Fremont Avenue, Everett, Mass.

I. *On the Part of the Secretaries.*

The occasion of the alumni dinner, on January 14, offers an opportunity for a number of the fellows getting together, and it is hoped that all in the vicinity of Boston will make great efforts to be present. The effect of the local correspondence scheme recently adopted has had a very healthy influence in increasing class news, and the Chicago and Pittsburg divisions have held informal dinners, as will be noted under the letters following. All others take notice! Plans will soon be under way for '07's share in the big reunion next June, and we must have the support of all.

II. *Personal Notes and Changes of Address.*

The following was clipped from the Boston *Record*:—

Professor Clarence Howe, of Boston, who went down to Dalhousie University, Halifax, to teach in the civil engineering department, has already become very popular in the college. The Dalhousie *Gazette* speaks in the highest terms of his ability and scholarship. During his student days Professor Howe had some experience in municipal engineering in some of the towns in the neighborhood of Boston.

—Clifton N. Draper is junior chemist with the United States Geological Survey in Pittsburg. He is working on research with petroleum, has a fine laboratory, and is enjoying himself. He is down on the city, though, and says it doesn't hold a candle to Boston. His address is United States Geological Survey, 40th and Butler Streets, Pittsburg, Pa.—Harry Moody is in the same place in a similar position.—The Scranton Gas & Water Company of Scranton, Pa., are putting in two mechanical filtration plants, one of 5,000,000 gallons capacity, and the other of 30,000,000 gallons. George R. Taylor, chemist and bacteriologist for the company, has been put in charge of them. Mr. and Mrs. Taylor are welcoming a daughter, born May 12, 1908.—John Rehn writes that he is mixing paints in Easton, Pa.—Kenneth G. Chipman is with the Geological Survey in Ottawa, Can. He spent last summer on Vancouver Island, off the British Columbian coast. About September 15 he started back across the continent, and began work in Ottawa on the 1st of October. He is doing photo-topographic work in addition to geological work, and is fast becoming a civil engineer as well as a

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mining engineer.—So far as we know, only one member of the class has been married since the last issue of the REVIEW. The fortunate man is J. A. Davis, who married Miss Mary L. Cadwell, of Atlantic City, on Oct. 29, 1908.—L. L. Allen is clerk of the Brookline School Committee.—Bob Albro is now with Horton & Hemenway, contractors of Boston, and at present is on a job at Waterbury, Conn.—Lawrie Allen is now with the Boston office of his firm, and living at Auburndale in "that little home of his own."—Bonta is building superintendent for Al. Taylor, architect, of Syracuse, N.Y. —We hear that Shirley Black was recently engaged to Miss Marion Baker, of Lynn, Mass.—Sam Coupal has left California for Alaska, but expects to be East this winter.—Macomber stopped off to see him, when going by his camp this fall, but just missed connections. After seeing the town, we do not wonder Sammy chose Alaska.— H. R. Chase is at 24 Montello Street, Dorchester.—Eaton recently passed the examinations for the revenue cutter service, and is now on the United States steamship "Inca."—Dodge leaves Pittsburg after January 1 for 134 B Street, N.E., Washington, D.C.—Donnewald is superintendent of the Eddie-Cannon Mine, El Paso, Tex.— Dempwolf is studying in Paris, 30 Rue St. Sulpice.—F. C. Elder is now at Columbia University, studying mining.—C. S. Fleming's address is 4430 Winton Road, Cincinnati, Ohio.—F. E. Goodnow is with the Western Electric Company at Chicago.—W. A. Gates, Coxsackie, N.Y.—Bert Johnson is at 104 South 3d Street, Reading, Pa.—"Granny" Jones is now head chemist for the Washington Filtration plant.—Kolatschevsky, we hear, is about to be married at his home in Malta, Greece, and soon expects to return to America. —W. W. Karnan's address is, United States Geological Survey, Pittsburg, Pa.—R. F. Knight is with the Corbin Motor Vehicle Corporation of New Britain, Conn.—J. I. B. Larned gives his home address at Lake Forest, Ill.—J. S. Moore is located at United States Naval Station, Key West, Fla.—Moreland is with D. C. & W. B. Jackson, engineers, 84 State Street, Boston.—B. F. Mills is a civil engineer with War Department, Manila, P.I.—John Mather was recently appointed a second lieutenant in the artillery, and is now at Fort Revere, Mass.—Sam Marx is just now in Boston. Where next?—Naramore holds out at 5003 Washington Avenue, Chicago. —Norton is now a lieutenant in the United States artillery, stationed at Fort Banks.—C. W. Nutter is at Forsyth Street, Chelsea.— Emerson Packard was recently made superintendent of the Haynes-Piper Company of Ayer, Mass.—Eugene Phelps is with Burton Whayne Company, 237 Fifth Street, Louisville, Ky.—V. S. Rood, Holland, Josephine County, Ore.—L. P. Russell, Pittsfield, Mass.

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—S. R. T. Very, 410 West End Avenue, New York City.—M. Wyner, 189 High Street, Boston.—W. H. Sage, Jr., who was with the class for a year, graduated from West Point last summer.
—Macomber has recently returned from California and expects to make Boston his headquarters for the present.

III. *Letters.*

From T. W. Roby, Jr., just too late for the October REVIEW, was received the following:—

I am still with the McClintic Marshall Construction Company of Pittsburg, being now in the estimating and designing department of the local plant. The company took on something like twenty-five college grads in July, 1907, for a two-year course,—six months in each of the four departments. I was one of the four men who came down from Tech, Van der Stucken being the only other '07 man. I spent four and a half months in the draughting-room, eight in the shops, and will be in my present location till January 1, when I expect to be sent out on erection for the last period, our course ending in July, 1909.

This letter was sent from Wilkinsburg, Pa.—Under date of September 2 came a letter from C. S. Fleming, who is with Proctor & Gamble Company, Cincinnati, Ohio:—

We have just recently enlarged and refitted our soap powder department, and I have succeeded a former Ohio State man who had had charge for about a year. That meant new machines to work and new help to train. So I have had my hands full the last month. . . . We pack about 60,000 to 80,000 pounds of washing powder a day. . . .

I was married last New Year's evening, and since the middle of January have been keeping house at Winton Place, a station near here. . . . My home is at 4430 Winton Road, Cincinnati.

—Bert D. Johnson writes from 104 South 3d Street, Reading, Pa., in a letter which is not dated, but which was received about the middle of September:—

Two weeks ago I came to this city to work in the draughting-room of the Reading Iron Company. . . . My time has been more of it spent at home than ever I had expected. . . . Six months of the time (since February, 1907) I was at work in the wood pulp industry in Northern and Eastern New Hampshire. . . .

—From Pittsfield, Mass., comes the following:—

My son, Benjamin F. Mills, accepted a position under the United States War Department as civil engineer. He was ordered to report at Manila, and sailed from San Francisco on August 1.

CHARLES A. MILLS.

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—John G. Barry writes from North Dakota as follows:—

I am assistant State geologist on the United States Geological Survey. In the winter, besides the usual office work, I also teach, in the State University at Grand Forks, mineralogy, economic geology, and petrography. This past summer I have been engaged in work on the aereal geology of Pembina and Cavalier Counties, 2,400 square miles. The work is done on horseback. The area is very flat, and the underlying formations are of the upper cretaceous. Exposures occur along deep coulées, and the Pembina Mountains, an old river bluff. The formations have an economic use for cement and brick. Grand Forks is a nice little city, a farming metropolis of 12,000. The whole State is mostly devoted to farming. The State University is situated on the open prairie, two miles west of town, has eleven buildings, and five hundred students. It is quite an institution for a State of this sort.

Sad to state, I haven't been able to find a soul-mate as yet. . . .My work here interests me very much, but I am hoping to get into practical mining as soon as possible.

—On the letterhead of the Cudahy Packing Company, South Omaha, Neb., C. F. Runey writes:—

I am assistant chemist with the above company. Unmarried, with no immediate intentions. My work here is done under the best conditions, this laboratory being fitted out with not only first-class apparatus, but all that is required. My personal work at present consists in the analysis of supplies bought, pharmaceutical preparations, etc. . . .

—F. E. Langenheim, who was with the class one year, writes from Harrisburg, Pa.:—

. . . About three weeks ago (October 14) I had a letter from our Russian classmate, A. T. Kolatschevsky. The letter was mailed in Valletta, Island of Malta, and stated that he was well and lively, and anxious to get back to the United States; also, that he expected to be married about the middle of October, and would make his home for the present in Italy, but that later on would bring his wife to the United States, and perhaps make his home here and go into business. Lawrence T. Walker, of Stoneham, Mass., has been travelling all summer in the British Isles, France, and Germany, and may remain abroad to study this winter. . . .

I am at present assistant engineer with the Water Supply Commission of Pennsylvania. Lately have been very busy making meter measurements on the streams during their low stages during this drought.

—The following is from Bonta:—

I started in with Jim Vedder's uncle,—Merrick & Randall's office, Syracuse, N.Y. Jim is head draughtsman there, and is their best designer. I left them to go to England last July, and have just returned from a de-

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lightful visit, where I ran across Walker ('07), and Keyes ('07), who had come over as cattleman on some boat, and was looking for permanent employment in England. I am now head draughtsman and building superintendent with Alfred Taylor (Tèchnology), here in Syracuse, and am settled permanently and quite happily. . . .

—The following is from Rambo and is written on the steamship "Cap. Valano," August 28, *en route* from Rio to Buenos Ayres. Rambo went to Brazil in the spring, to return about the end of the year. After describing a large hydro-electric plant at Rio, he writes:—

I suppose you wonder what the dickens I am doing on this boat. I am on my way to Buenos Ayres. Arrive there some time to-morrow. We are in a pretty bad storm, which has been raging for the last two days, and it has turned very cold since leaving Rio,—from 90 to 35 degrees. . . . Things are pretty dull in Brazil. If the coffee market does not improve, things are going to smash. The openings here are good, but one has to consider the other side, the giving up of the customs of one's country, one's friends and home. . . . I shall probably return to the States about November or December.

—A. L. Burwell's address is now 639 Main Street, Winsted, Conn. He writes:—

I have forsaken New York and the old job for the above letterhead (Burwell Chemical Company, manufacturers of leather dressings, Winsted, Conn.). All my own, too. Give my regards to all the boys.

—Cenedella writes from Milford, Mass.:—

I am at present working for F. A. Barbour, of Boston, on the Milford Sewerage System, and expect to be here until the weather gets too cold for work. I've only been working for him this last month. . . . I expect to land a job on the Baltimore Sewerage System about January.

—"Albert E. Greene, Electro-Metallurgical Engineer." Thus reads the letterhead. He writes:—

I am at present with the Illinois Steel Company as electro-metallurgist. I spent the first eight months after leaving the Institute with a company in California which was developing the smelting of California iron ores in the Heroult Electric Furnace. This line of work has especially attracted me, not only because it is a new and quite undeveloped line, but also because it covers a field of very great importance. It is a line of work and of study that our younger fellows back at the Institute should keep their eyes on. It has possibilities.

As to my future I have not much to say, except that I expect to "get there." I am not married—not even engaged.

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—John Frank writes:—

I finally succeeded in rounding up the Chicago, 1907, bunch, and we came together in an informal way at Emil Kuehn's on November 21. We did not take official action of any kind, but all present agreed to the plan of having dinners once a month or thereabouts. Those present were: Naramore, Bennett, J. M. Baker, Crosby, Greenwood, Snow, Bragdon, Lebenbaum (Sp. '06), A. E. Greene, J. M. Frank.

I expect to go South in a few weeks now. . . . I saw Stud Leavell's wife in Chicago a short time ago. Stud had typhoid fever, but he pulled through, and weighs two hundred pounds now. Also, he is getting bald.

P.S.—I might say about the dinner that it was noteworthy for the free use of aqua pura. However, don't blame me. It was not my fault. I believe you know my views on the subject.

—The long-lost is found. Donnewald sends us a letter via John Frank. He is with the Eddie-Cannon Mining Company, El Paso, Tex.

I am superintendent of this company, and am working pretty hard. I have just completed a new head frame and installed a new hoist. I am neither engaged nor married. If you know of a good-looking girl up there in Chicago, send her down quick, because the grub this Chinaman is handing out is H—.

—From far-away Japan comes a welcome letter from Nicholl:—

I am with F. W. Horne, importer of American machinery, and don't know whether I was lucky or unlucky to be left in charge last November, 1907. When one is doing business in Japan, he needs eyes on all sides of his head. But it is a great experience. Of course, you imagine Japan as I did, *i.e.*, a land of flowers, with beautiful geishas running promiscuously about, and with ruby lips ready to kiss. It is quite the reverse. The flowers are actually scarce, and the beautiful geishas have to be hunted. The ruby lips, however, are always ready to be kissed, though the penalty is a smear of rouge. I will enjoy this lazy Far Eastern life for a few years, and I hope it doesn't get into my bones. Yokohama is the largest part of the empire, and is composed of about 180,000 Japanese and 3,000 foreigners. There are lots of sports here, and I have gone in heavily for baseball and tennis. Two weeks ago we went down and cleaned up Kobe. . . . Expect to get over to Tientsin to see Morrill in the spring. An awful hole he has gone to. . . . Best regards to all classmates.

—Dodge had a dinner in Pittsburg, and says concerning it:—

We had a little gathering and dinner here on the 28th of October on the occasion of Granny Jones's visit. Roby, Kimball, Jones, and I had dinner at the Fort Pitt. They reminisced about "Pop" Swain, "Santa Fe" Allen, "Structures," and the like, and I looked on, only guessing what

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it was all about. My reminiscences all run along the lines: "Dynamics of Machines," "Machine Design," and similar stuff.

1908.

JOHN T. TOBIN, *Sec.*, Leesville, Va.
RUDOLPH B. WEILER, *Res. Sec.*, 26 Brooks Street, Brighton, Mass.

An informal dinner and reunion of the fellows in Boston and vicinity was held at the Tech Union, Tuesday evening, December 8. Although this was merely a local affair, many came long distances to be with us, and, owing to this sort of spirit, we had an unusually large gathering for such an event, sixty-eight being present. Frederic H. Fay, secretary of the Association of Class Secretaries, was the guest of the class, and he traced the history of the Alumni Association and gave an outline of the coming reunion. After the dinner the business meeting was called to order by "Pop" Gerrish. It was decided to have a committee of five to take complete charge of the '08 end of the reunion. Rapelye, Weiler, Reid, Gerrish, and Osborne were elected to this committee. The matter of drawing up a new constitution, now that the class has graduated, also came up for discussion. It was moved, seconded, and carried that the chair appoint a committee of three to draw up a new constitution and submit it at the next class meeting. Rapelye, Reid, and Weiler were appointed.

Steps were taken to get in line with other classes in the plan for inducing preparatory and high-school boys of exceptional ability to come to the Institute. The usual procedure is to appoint a committee, each member of which corresponds with all the members of the class in his section of the country. The members keep their eyes wide open for the class of fellows wanted,—*i.e.*, those who are leaders in their school in one way or another,—and, when they run across such a fellow, notify the committee member nearest to them. He sees to it that literature is sent to the boy, showing him the advantages of the Institute as a school at which to complete his education. The original class member is, in the mean time, supposed to talk over colleges with the boy and show him wherein the Institute excels. It is expected in this way to induce many fine fellows who might perhaps go elsewhere to come to Technology.

The class voted that nominations for this supervising committee, which should be of three members, should be made by the committee appointed to draft the new constitution, and that the nomi-

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nations thus made should be voted on by postal ballot to the secretary in Boston. Appended is the list of nominations, which, it is hoped, the class will vote on immediately. Vote for but three names, and, in so doing, consider geographical position. Address your postal to R. B. Weiler, Massachusetts Institute of Technology, Boston, Mass. Polls close Feb. 20, 1909.

A. G. Place, Boston, Mass.; W. E. Barton, Boston, Mass.; W. A. Adams, Boston, Mass.; H. E. Allen, Wilkinsburg, Pa.; G. T. Glover, Lima, Ohio; W. R. Heilman, Evansville, Ind.; H. W. Hoole, Milwaukee, Wis.; J. W. Maxwell, Austin, Tex.; J. B. Sando, Milwaukee, Wis.; J. W. Maxwell, Austin, Tex.; J. B. Sando, Milwaukee, Wis.: J. T. Tobin, Leesville, Va.

It was unanimously voted that the dues for the coming year be made one dollar, due Feb. 1, 1909. Owing to the embarrassing condition of the treasury, it will be necessary to collect the dues at once, so please send one "bone" to the resident secretary. On account of the Reunion we shall need all the funds we can get together.—Harry Webb, speaking for the senior portfolio committee, said that there was a deficit for which the members of the committee are liable. If the few remaining portfolios are sold, there will be a slight balance. Any one wishing one of these portfolios, please send six dollars to Harry Webb or to the resident secretary. Any one wishing the cut used for his picture may have it for fifty cents. This will be refunded if all the portfolios are sold, and every one will receive his cut free.

On October 30 several of the '08 men still at the Institute joined in the Republican Club Parade as a separate battalion. The parade was a grand success, and no signs of any "scrap" were to be seen anywhere. Now get out that pretty calendar you received Christmas, and put a big blue pencil mark around June 7, 8, and 9 to remind you that you have to make your vacation include those days.

J. McGowan, Jr., has left S. C. Keith, and has gone to Camden, N.J. He writes: "Have come down here to this second Chelsea, to be chemist for the Joseph Campbell Company, of condensed soup fame. Look for the street-car adv." A. T. Hinckley and W. W. Karnan have left the State Board of Health. Hinckley is assistant in inorganic chemistry, and is a candidate for an M.S. degree. Karnan is with the United States Geological Survey, Pittsburg, Pa., engaged in fuel analysis.—Charlie Edmonds and Harry Lord have left Blake's. Edmonds has accepted a position with the Home Gas Machine Company, 183–189 East Lake Street, Chicago, Ill.,

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and Lord is with the General Electric Company, Lynn, Mass.—L. H. Allen has left the Fore River Ship Building Company, and has gone to Pennsylvania to serve as transitman on a preliminary survey for an interurban railroad from Johnstown to Gallitzin. His address is Anderson House, Cresson, Pa.—E. E. Allen is a travelling salesman. Address, 87 Park Place, New York.—G. W. Bailey is with Samuel M. Green, Inc., Holyoke, Mass.—Beede is in the shoe business at 139 Lincoln Street, Boston.—G. M. Belcher is rodman with the Charles River Basin Commission.—H. R. Calloway is with the New York Edison Company, New York city.—"Nick" Carter is with the Factory Mutual Fire Insurance Company, 31 Milk Street, Boston, Mass.—G. A. Clatur is in the office of the Division Engineer, New York, New Haven & Hartford Railroad Company, South Station, Boston.—"Clif" Cochrane's address is Lock Box 36, Franklin, N.H. He is with the International Paper Company.—Fred Cole has left the United States River and Harbor Commission, and has gone to Northern Vermont to engage in the lumber business for the winter.—G. S. Coleman's address is 12 Bridge Street, East Cambridge.—R. W. Davis is with the Allis-Chalmers Company, Cincinnati, Ohio.—Edge is a chemist with the Readville Color Works, Readville, Mass.—"Happy" Ellis is a fire insurance underwriter at 93 Water Street, Boston.—L. B. Ellis is with the Metropolitan Water Supply Board at Ashburton Place, Boston.—Esten is a leather chemist at 208 Summer Street, Boston, with Marden, Orth & Hastings.—Ray Ferris has left the Massachusetts State Board of Health, and gone to Columbus, Ohio, where he is engineering assistant with the State Board of Health.—Flaherty is transitman with W. S. Johnson, 101 Tremont Street, Boston, engaged in water works construction.—R. W. Parlin is with the same firm as resident engineer.—W. C. Folsom is assistant engineer with the State Board of Health, State House, Boston.—"Pop" Gerrish is with the Eastern Dredging Company, 247 Atlantic Avenue, Boston.—C. E. Goldthwaite is a machinist at Peabody, Mass.—Cohen is with the G. F. Blake Manufacturing Company, East Cambridge, Mass.—A. W. Heath is with the Pierce & Barnes Company, 7 Water Street, Boston.—Heimer has left the Enterprise Mining Company, and is now with the Socorro Mines, Mogollon, N.M.—Heilman is with the Peerless Auto Company, Cleveland, Ohio.—Iasigi is at 55 Duane Street, New York city, as cable inspector with the New York Edison Company.—Kydd is assistant chemist, Washington Mills Laboratory, American Woollen Company, Lawrence, Mass.—Lambirth is instructor in wood-work at the Brockton High School,

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Brockton, Mass.—Lees is with the National Metal Fabric Company, Plainville, Conn.—"Doc" Leslie is with the United Shoe Machinery Company, Beverly, Mass.—Lyford is a sugar analysist at the plantation of the J. B. Laws Company, Cinclare, Baton Rouge Parish, La.—F. W. Lyle and R. E. Manning are with the General Electric Company, Lynn, Mass.—W. H. Mason is assistant manager of Marcus Mason & Co., dealers in plantation machinery, 359 Produce Exchange, New York.—D. H. Maxwell is assistant manager of "Maxwell's Talisman," 1403 Fisher Building, Chicago, Ill.—E. H. Newhall is with the General Electric Company, Schenectady, N.Y.—H. G. Nicholas is with the Great Western Sugar Company, Brush, Col.—"Ed" Orchard is a vocal teacher at 3879 Delmar Avenue, St. Louis, Mo.—G. H. Pierce is with the Metropolitan Elevated Railway Company, 139 Adams Street, Chicago, Ill.—E. A. Plumer is with D. C. & W. B. Jackson, engineers, 84 State Street, Boston, Mass.—W. C. Taylor is with the Corning Glass Company, Corning, N.Y.—H. E. Allen is an apprentice with the Westinghouse Electric Manufacturing Company, Wilkesbarre, Pa.—M. E. Allen is at the law school of the University of Michigan, Ann Arbor, Mich.—"Bob" Angell is with the Fargo Plumbing & Heating Company, Fargo, N.D.—R. B. Anthony is with the sales department of the Bristol Company, Waterbury, Conn.—W. E. Booth and E. E. Kilburn are with the Industrial Instrument Company, Waterbury, Conn.—Boush is farming with the Newport Pecan Company, Newport, Fla.—J. C. Brooks is with the Jones & Laughlin Steel Company, South Side Works, Pittsburg, Pa.—W. E. Caldwell is with the W. E. Caldwell Company, Louisville, Ky.—Hardy Cross is a draughtsman with the bridge department, Missouri Pacific Railway, St. Louis, Mo.—Allston Dana is instructor in civil engineering at the University of Montana, Missoula, Mont.—Denny is in the Leven shipyard, Dunbarton, Scotland.—G. M. Dexter is a civil engineer with Hazen & Whipple, 103 Park Avenue, New York city.—C. N. Draper is junior chemist with the United States Geological Survey, 40th and Butler Streets, Pittsburg, Pa.—J. A. Fottler is instructer in electrical engineering at the Rhode Island State College of Agriculture and Mechanic Arts, Kingston, R.I.—Friedman is a heating and ventilating engineer at 18 East 92d Street, New York city.—Gianella is a chemical engineer at 271 Ninth Street, Brooklyn, N.Y.—Goodman is with D. C. & W. B. Jackson, 84 State Street, Boston.—W. Griffen is salesman with Griffen & Hoxie, wholesale grocers, Utica, N.Y.—J. E. Hale is with the Amoskeag Manufacturing Company, Manchester, N.H.—J. W. Hale is instructor in electrical engineering at

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the Pennsylvania State College, Pennsylvania.—C. E. Hanson is professor of drawing and manual training at Connor's State School of Agriculture, Muskogee, Okla.—Heard is with the Newport News Shipbuilding and Dry Dock Company, Newport News, Va.—Hennen is assistant engineer with Boughton & Lantz, Morgantown, Va. —Bradford Holmes is with Stone & Webster Management Association, 147 Milk Street, Boston.—M. T. Jones is engaged in experimental work with the Meygrowitz Manufacturing Company, 31st Street and 1st Avenue, New York city.—S. C. Lyon is secretary of the Massachusetts Correspondence Schools, 194 Boylston Street, Boston.—G. M. J. Mackay is instructor in chemistry at Dalhousie University, Halifax, N.S.—MacNutt is assistant biologist with the Pittsburg Typhoid Fever Commission, 431 6th Avenue, Pittsburg, Pa.—P. W. Norton is an architect with Shepley, Rutan & Coolidge, 122 Ames Building, Boston.—Penny is assistant to the superintendent, concentrating plant, Pennsylvania Steel Company, Lebanon, Pa.—Potter is a civil engineer in the Departimiento de Construcciones Civiles Obras Publicas, Havana, Cuba. Martinez is also at Havana as assistant engineer with the sewer and paving department.—F. E. Mott is a chemist with the Bureau of Milk Inspection, City of Boston, 30 Huntington Avenue.—E. Myers is with the Opaque Shade Cloth Company, West Pullman, Ill., as manufacturer of chrome colors.—F. J. Robinson is a draughtsman in Guy Lowell's office, 1128 Tremont Building, Boston.—C. Shapleigh is assistant engineer with the Alabama & Vicksburg Railway Company, Vicksburg, Miss.—Spengler is assistant to the secretary-treasurer of the National Light and Improvement Company, Pierce Building, St. Louis, Mo.—Steele is open-hearth furnaceman with the Homestead Steel Works, Munhall, Pa.—Willey is in the engineering department of the Triumph Electric Company, Cincinnati, Ohio.—Larned is at the Union Theological Seminary, New York city.—Arthur Skillings is with the Old Colony Trust Company, Ames Building, Boston.—C. A. Vose is engaged in growing cranberries at Marion, Mass.—A. C. Winch is a heating and lighting engineer at Saxonville, Mass.—W. B. Hunter is co-operative educational director, Fitchburg High School, Fitchburg, Mass.—E. F. Cookingham is with the New Hartford Canning Company, New Hartford, N.Y.—D. Cairns is with the executive department, Holtzer-Cabot Electric Company, Boston.

The following '08 men are assistants: A. B. Babcock, H. S. Chandler, C. W. Clark, C. H. Criswell, J. R. Nichols, A. T. Hinckley, and R. W. G. Wint in Chemistry; H. B. Luther and M. T. Whiting in Civil Engineering; S. F. Hatch and R. B. Weiler

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in Mechanical Engineering; H. S. Eames, H. C. Faxon, A. H. Tashjian, E. P. Slack, and J. H. Locke in Physics; C. A. Gibbons and L. A. Dickinson in Mining Engineering; L. H. Sutton in Naval Architecture; and A. R. Hunter in Mechanic Arts.

The resident secretary would like the addresses of the following '08 men, letters addressed to them having been returned: William W. Rawlinson, John E. Johnson, Yuen Foo Leong, Morgan L. Bodenstein, Francis C. Goode, Nathaniel L. Coleman.

Those who knew him will regret to learn of the death of Fred Barstow Stevens, Jr., '08, on Aug. 23, 1908, at Malden, Mass., as a result of typhoid fever. He was in the employ of the Hastings Pavement Company, Hastings-on-the-Hudson, N.Y., but intended to return to the Institute this fall. He was well known for his work on the tug-o'-war team, acting as manager of the freshman team and captain of the sophomore team.

Letters.

WASHINGTON, D.C.

There certainly must be something in mental telepathy, for on the very day that I received your letter of gentle reminders I had made up my mind to write you of my "doin's." I have been in Washington since November in the Fuel Testing Division of the [geological] survey, and am delighted with the place and the work. The work consists primarily in the inspection, sampling, and analysis of all fuel used by the government in the District of Columbia. These fuels—about 150,000 tons per year—are purchased on the basis of "ash in dry coal" and "B. T. U.'s per pound as received." So you see the work is quite extensive. In addition to the above it is the duty of the inspectors to watch each plant—there are over fifty buildings and institutions which come under our immediate supervision—with a view of improving boiler-room economy as regards kind of coal used, method of firing, and centralization of heating and lighting plants. Have had a better offer to go elsewhere, but like the work well, and will stay for awhile to see what the future has to offer. . . .

Give my regards to the '08 fellows through the REVIEW and to my many friends at the Institute. . . . LEO LOEB, 1121 6th, N.W.

STATE COLLEGE, PA., Dec. 7, 1908.

I was pleased to receive advice of an informal reunion of the members of the Class of 1908. As I am here at State College and busily engaged [as instructor in electrical engineering], I shall be unable to attend the reunion, and regret very much that I cannot meet the fellows at this time. Kindly remember me to all. I hope to be able to meet the fellows, or a large number of them at least, next January, when I shall be in Boston. . . . Long live the Class of '08. JOSEPH W. L. HALE.

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2008 Calumet Avenue, Chicago, Ill., Dec. 1, 1908.

I will not be able to attend the dinner on the 8th, and you see the reason. Am very sorry not to be able to join you. I understand there are several '08 men in Chicago, among them L. B. Hedge (VI.) and George Schobinger. The latter is the only one I have seen so far, as none of them showed up at the Northwestern Alumni Dinner Saturday night last. However, Schobinger and I had a little reunion on our own hook several weeks ago. We are only about five blocks apart by airship down town here.

Quite a number of '07 men turned out to the alumni dinner, and I met men of several different classes. The stench of stale tobacco smoke hung to my clothing for several days, and I was fully reminded of the good old days on Garrison Street.

Well, remember me to the boys if you happen to see any that know me. . . .

Donald H. Maxwell.

The following is a clipping from the Gloucester (Mass.) *Times*, Dec. 4, 1908:—

Charles L. Lufkin, a Gloucester boy who graduated from the Institute of Technology, Boston, last June, leaves by steamer from New York for San Juan, Porto Rico, Saturday, where he has secured a fine position on an immense sugar plantation in that country.

Mr. Lufkin's many friends will be pleased to learn of his success. He is a native of this city, graduating from the Gloucester High School, class of 1903, and was regimental adjutant of the cadet regiment of the Lynn English, Lynn Classical, Chelsea, and Gloucester High School battalions.

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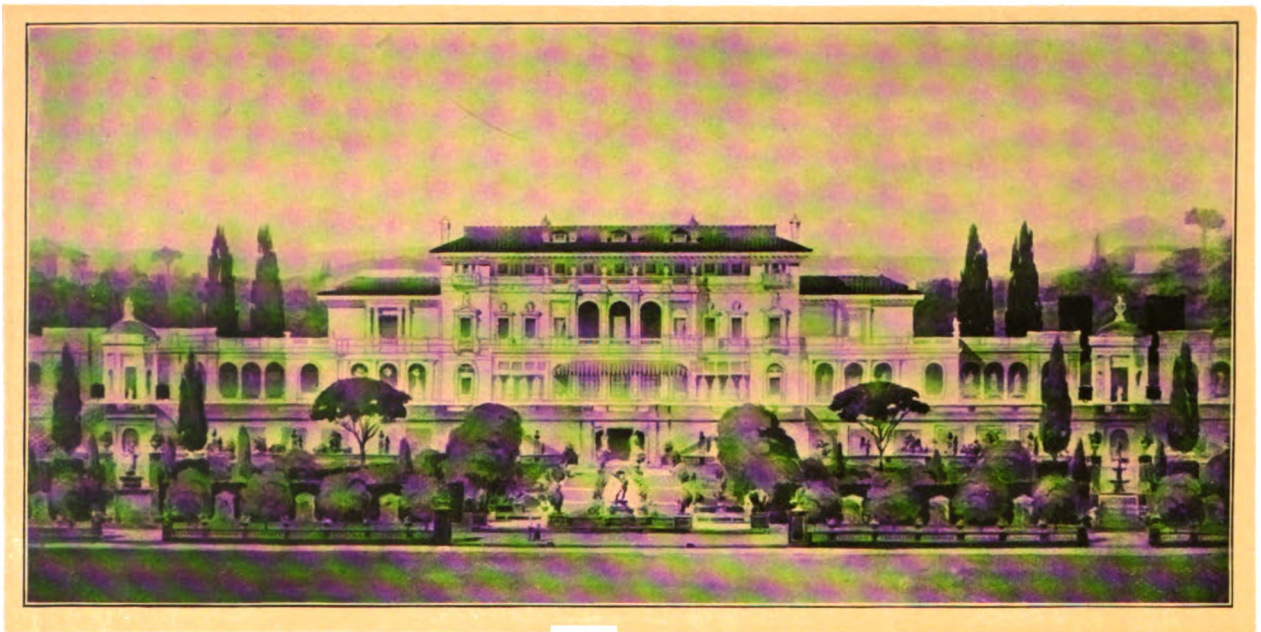

AMERICAN ACADEMY IN ROME COMPETITION

"An Establishment for the American Academy in Rome." Prize design by Edgar I. Williams, M.I.T., '08

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The Technology Review

VOL. XI. APRIL, 1909 No. 2

SECOND ALL-TECHNOLOGY REUNION

Elaborate Plans for the Great Event, June 7, 8, 9
Inauguration of Dr. Maclaurin

As the plans for the Reunion of 1909 have been developed, the scope and importance of the convocation has broadened, and with the announcement by the Corporation that the inauguration of President Maclaurin will take place on June 7, the first day of the Reunion, it becomes an occasion of marked impressiveness and dignity.

The decision to hold the inauguration on the first day of the Reunion was only recently made, and announcement of the plans cannot be given out at this time. The ceremony will be held in Symphony Hall at eleven o'clock, and a committee, consisting of six representatives of the Corporation, three from the Faculty, and three from the alumni, will have charge of the exercises. There will be a notable assemblage of prominent educators and public men at the inauguration, and the various co-ordinate interests of Technology will be represented on the program. Dr. Maclaurin will be the guest of the Alumni Association throughout the Reunion, giving part of his time to the undergraduate functions and appearing at the principal features on the Reunion program.

As originally laid out, it was intended to have a general automobile excursion on Monday afternoon. The great interest, however, that is being shown in the Reunion indicates that the numbers to be accommodated will be greater than we can supply with cars, and it is necessary, therefore, to limit the invitations to this feature of the Reunion to visitors who live more than forty miles from Boston.

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This is intended to be a courtesy to our visiting brothers, their families and visiting friends, and will not take on the nature of a parade. The cars will take the visitors through the suburbs of Boston by different routes, probably stopping at the Country Club for tea on the return to the city.

As a fitting termination to inauguration day, Governor and Mrs. Draper will receive the alumni at the State House from 8.30 until 10.

Through the courtesy of the house committee of the Boston City Club the upper floors of the club-house will be thrown open to the alumni at 9.30 on Monday evening for an informal jubilee smoker. The club house, which has been recently very much enlarged, offers ample accommodations for all the men who wish to come. This smoker is intended to be an informal social affair, and will serve as a sort of reception to the graduating class. There are several large halls on the upper floors of the City Club where there will be special Technology features, such as acts from the coming Tech Show, selections by the Glee Club, etc.

On Tuesday morning the professors will be in their departments ready to welcome old students who wish to call upon them. This has been a feature of graduation day for many years, and a great many men take advantage of the opportunity. Tuesday has been designated as the day of the classes. At noon the alumni will be transported in a body in two steamers of the Boston & Nahant Steamboat Company, of which Fred Wilson ('91), is president, to Nahant, where all the hotel accommodations have been engaged for the day. Nahant is particularly well suited for such an occasion. It is an hour's sail from Boston, is in an isolated location, and the hotels are convenient to the boat landing. It is intended to seat the men by classes and serve a hearty shore dinner at two o'clock. The classes can transact any business that may be necessary, and after dinner the men will mingle together in social intercourse or engage in some of the sports that will be provided by the entertainment committee. The day of the classes is a new Reunion feature, and it is believed it will be a most popular one. It is one of the few occasions where there is no prearranged program and where the men meet together without any restraint or formality.

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There is ample room at the various hotels for 1,500 or 2,000 persons.

Returning to Boston about five o'clock, the men will dine at pleasure, rendezvous by classes, and march to Symphony Hall as usual. The Pop Concert on Tuesday evening will be a brilliant one, special features being arranged by the committee to make it a memorable occasion. At the close of the concert, the men will march in a body down Boylston Street and cheer Rogers Building, which will be outlined in red fire.

The culminating events of the Reunion begin on Wednesday with the excursion to Nantasket. The two steamers which have been engaged will leave the wharf of the Nantasket Steamboat Company at ten o'clock, and on arrival at Nantasket, the alumni will assemble by classes on the beach and march to the Atlantic House, which will have been completely transformed and enlarged by means of canvas additions and tents. A buffet luncheon will be served on arrival, and, although there will be nearly double the number of guests that were present at the excursion five years ago, ample arrangements have been made to feed the multitude without discomfort. The Atlantic House is, fortunately, conducted by a Tech man, J. Linfield Damon, Jr. ('91), who made an excellent record for the house at the last Reunion.

After luncheon the stunts will be run off in the arena in front of the hotel. As the excursion to Nantasket will be held rain or shine, there will be an immense tent erected over the arena, and, in order to accommodate the larger number of guests who will be present this year, the veranda will be widened for half the length of the hotel, and on the other side of the arena will be erected a grand stand, capable of holding 1,200 people. The stunts will be of a very novel and ludicrous character. Every class will have some kind of an entertainment to offer. The older classes will come first, and there will be a time limit given each class in order that we may be sure to leave for Boston on schedule. Most of the classes have already appointed committees of arrangements for the Reunion, which also have charge of the class stunts. The stunts that made the biggest hit with the crowd at the last Reunion were those that were snappy and impromptu, that utilized all the members of the class and that

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were run off quickly. The stunt program is unique to Technology, and its success five years ago was largely due to the fact that we did not call for elaborate machinery or high-priced costumes to amuse the crowd. Some features that have already been reported to the committee are infinitely ludicrous. Acts that are registered with the committee can be claimed as the property of the class first making claim.

The excursion boats will leave for Boston about five o'clock, and in the evening will occur the grand Reunion banquet. This will be held in Symphony Hall, which will be elaborately decorated for the event. This dinner will be the crowning feature of the Reunion, and it is expected that there will be 1,000 persons at table. The speakers will be men of international reputation, and there will be an opportunity for guests to hear the speeches from the gallery seats. The dinner will be served by one of the most capable stewards in New England, a man who is noted for excellent dinners served on unusual occasions such as this. The cooking will be done in Symphony Hall, it being necessary to install ranges, steam tables, etc., as well as a temporary steel stack outside the building. This is only a general outline of the program. The incidental divertisements, which add so much to festivities of this kind, are now being worked up by special committees.

The program for the women will be very complete. In fact, everything on the list of events is open to them except the day of the classes at Nahant on Tuesday afternoon and the jubilee smoker on Monday evening. On Tuesday afternoon Mrs. Edwin S. Webster will give a reception to the ladies at her residence at Chestnut Hill. There will be a special committee of women, with headquarters in the Margaret Cheney Room, Pierce Building, Trinity Place. Fraternities and societies desiring to be together will have no better time than at breakfast on Tuesday or Wednesday.

Tickets admitting to the various functions will be sold as follows: jubilee smoker, City Club, $1. This includes refreshments. Day of the classes, including transportation and ½ dinner at Nahant, $2. Pop Concert, $1.50. Excursion to Nantasket, including luncheon, $3. Banquet at Symphony Hall, $4.

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It has been decided by the committee to sell combination tickets including all these festivities for $10.

The committee on hospitality, headquarters and registration will have its headquarters at the Tech Union, where there will be all sorts of conveniences for visitors. There will be clerks on duty at all times to make out registration cards, give out badges and furnish information. A handsome identification badge has been selected, giving the name and class of each person, and the registration cards will be immediately written up, so that the file will be complete within a few minutes of the time the guest registers. The Naval Architecture drawing-room will be given over to the classes, a desk being provided for each separate class, where members can meet if they desire. There will be writing materials, free telephones, messenger calls, time tables of all railroad, steamboat and trolley lines in and about Boston, maps of the city and suburbs, etc., and a check-room for the convenience of guests.

All the events will take place rain or shine, except the automobile trip. On the day of the classes the men will be under cover practically every minute from the time they leave Boston to the time they return, as the hotels at Nahant are only about three minutes from the boat landing. In case of rain or heavy weather there are plenty of bowling alleys, shooting galleries and billiard tables for amusement.

It will be observed from the above program that there is little chance for classes to get together by themselves during the Reunion. There will be an opportunity, however, for classes and fraternities to meet for breakfast on any one of the three days or for a limited time at dinner on Monday and Tuesday evenings. Osiris has arranged for its reunion on Tuesday at breakfast, and the reunion of Tech editors will probably take place on Wednesday morning at breakfast. Most of the five-year classes having anniversaries this year will get together on Friday, Saturday and Sunday, or for a shorter period of time previous to the Reunion. This not only is true of the five-year classes, but several other classes have arranged to get together on Saturday and Sunday, or for Sunday only, thus making the Reunion an unusually social affair. It is likely that a

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dozen or fifteen classes having no anniversary this year will at leas spend Sunday together at some hotel or summer resort near Boston

It has become plainly evident to the committee that, in order to properly take care of the immense numbers that are sure to pour into Boston for this Reunion, we must know as definitely as possible how many we are likely to expect, in ample time to make provision. In talking the matter over, it has been clearly shown that the facilities at some of the events are likely to be limited, and the committees are not warranted in spoiling the pleasure of the majority for the late comers for whom provision has not been made. Within a very short time, information relative to the Reunion willl be sent to all former students of the Institute, accompanied by a return postal card to indicate the intention of the person addressed without necessarily committing him. We are very desirous of having every man fill out this blank, in order that we may make proper preliminary arrangements. About the middle of May the final subscription blank will be sent out, which will make definite reservations for the different events.

The committee in charge of the Reunion consists of Edwin S. Webster ('88), chairman, of the firm of Stone & Webster; Dr. Arthur A. Noyes ('86), Acting President of the Institute; Hon. Eben S. Draper ('78), Governor of Massachusetts; George W. Kittredge ('77), New York city, chief engineer of the New York Central Railroad; Theodore W. Robinson ('84), Chicago, vice-president of the Illinois Steel Company; Walter B. Snow ('82), publicity engineer; Everett Morss ('85), president Simplex Electrical Company; Henry Howard ('89), vice-president of the Merrimac Chemical Company; and I. W. Litchfield ('85), secretary.

Chairmen of committees: committee on hospitality, headquarters and registration, Professor C. F. Park ('92); committee on decorations, Professor H. W. Gardner ('94); committee on governor's reception, Professor William T. Sedgwick; committee on jubilee smoker, John A. Curlin ('92); committee on the day of the classes, Franklin T. Miller ('95); committee on the Pop Concert, Leo Pickert ('93); committee on harbor excursion, F. H. Fay ('93); committee on banquet, C. C. Peirce ('86).

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HOW THE STUDENTS ARE ORGANIZED

The Institute Committee and its Relations to All Student Activities—Student Business Office Opened

The prominent part that the Institute Committee has recently taken in undergraduate affairs has called much attention to it among the alumni. I have been asked to say something about its organization and its accomplishments.

The Institute Committee or students' council, which was organized about 1893, was originally composed of the president and two elected members of each class. The committee was self-appointed, and its duties were vague, it being generally understood that it exercised general oversight over undergraduate affairs and represented the students in their relations with the Faculty. The work done by a committee of this sort, having no definite duties, depended largely upon the initiative of the presiding officer, and, as the president of the senior class has always been president of the Institute Committee, he has not been able to give much time or energy to the work.

At first the Institute Committee carried out a useful purpose, but latterly it became inactive and was something of a joke to the students, who said the only real business the committee did was to sit for its picture for the *Technique* once a year. Last year an attempt was made to revivify this organization and make it more representative by adding to its membership the presidents of the course societies, the editor-in-chief of *The Tech* and *Technique*, and the general manager of the Show. The year's experience undoubtedly proves that this was a well-advised move, for it has added to the working force of the old committee, brought into the deliberations of the committee undergraduates who have had the most practical experience, and the work of the committee has had far greater scope and has been more thoroughly done. The addition of these men raised the membership of the committee to twenty-

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six, and, as this was too large a body to discuss detail work, an executive committee of five was chosen, who have general oversight of the committee's work and who prepare matters for its consideration.

This organization, with its large representative committee and its small executive committee, allows us to give attention to details and at the same time makes the body deliberative and permits of handling larger questions from a many-sided point of view. The most important piece of work which has been completed by the Institute Committee this year was the adoption of the point system controlling undergraduate office-holding, which is described by Mr. Scharff elsewhere in this magazine. Another important work was the regulation of bill-boards, which was given over to the committee by the Faculty. Previous to this year the hallways of the different buildings were made hideous by posters of all sorts and conditions, posted in the most flimsy manner, and many of them days or weeks out of date. The committee has put up in every building new bill-boards, which are under the supervision of a special sub-committee and are governed by a few simple regulations.

During the last few years the volume of work connected with the different student activities has grown to such an extent that it became a burden on the few men who were carrying the large share of the work. The amount of business done can be better understood, perhaps, from the statement that the students handle altogether from $25,000 to $30,000 a year. Of necessity there is connected with so much business a great amount of detail work, which, it is found, takes more time from regular Institute work than the social activity itself. This resulted in slack business methods, often producing losses and sometimes failures, and in lower scholarship, sometimes resulting in the loss of degrees.

Some time ago one or two of the activities studied the real conditions, and decided that the most practical relief would be to have their work done by the alumni office, which had been kindly placed at the disposal of the students for such purposes. The chief objection raised to this scheme was it would add more expense to the activities than they would be able to carry. The plan was tried,

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however, and its success was shown by the ever-increasing volume of work done by the alumni office for the undergraduates. The amount of clerical work that can be done for a small amount of money has surprised those that have made use of the office and prepared the minds of the men for the plan of co-operation which came later.

When the offices of the undergraduates were moved from Rogers Building to the Union, the alumni office was found to be very inconvenient to use for this clerical work. The need of an office in the new Union was canvassed, and about the middle of the year plans were completed for establishing such an office, supported entirely by the students themselves under the management of the Institute Committee. A man was secured to do book-keeping, typewriting, and stenographic work for the different activities, as well as for any student who needed his services. This man has now been employed for a month, and his work has been increasing so much each week that, if the present increase continues, it will be necessary to employ an assistant next year.

The outcome of this closer organization among the various student interests has led to interesting and profitable discussion and to plans for closer co-operation. There is now under way a movement to bring the different activities together in such a way as to prevent any individual loss or gain. The amount of money made in any one of them is not ordinarily large. It is oftener the case that there is a deficit at the end of the year, and the students who have been doing the most work in order to carry the activities along are the ones that are called upon to make up the deficit, although all the students are equally intererested. There is no doubt that, with the oversight and experience that can be made useful by the close relationships now possible in the Institute Committee, each activity can be conducted with less liability of loss and with greater possibility of gain than without such co-operation. There seems to be no reason why most of the activities should not make money each year, and that definite appropriation can be made from this profit to take care of the other interests that cannot from their very nature show gain. The scheme proposed is to give

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the general responsibility of oversight to the Institute Committee, which shall audit the books of each activity once a month and give any assistance or advice which may seem necessary.

The needs of the Institute Committee for the future seem to me to lie in two directions. The custom of having the president of the senior class also president of the Institute Committee puts more work on one man than he should be asked to carry. I believe that the presidency of the Institute Committee should be a separate and distinct office, which is undoubtedly the most important position to be filled by the students. The second thing that we need is a greater common purpose between the alumni and the undergraduates. This may be accomplished by the Alumni Council electing a committee of three to act as an advisory committee to the Institute Committee. This would give the latter the point of view of more mature advice in their larger undertakings; and would make a very important connection between the alumni and the undergraduates.

The committee has already been benefited by the friendly advice of individual members of the Association. If such advice could be given an acknowledged place in the affairs of the committee and if the men appointed were heartily interested in bringing the students and the alumni closely together, it would seem as though the new plan already begun would work out in a most ideal way.

JAMES H. CRITCHETT, '09.

Committee on Inauguration.

As the REVIEW goes to press, we learn of the appointment of the following committee to arrange for the inauguration of Dr. Maclaurin on June 7: From the Corporation,—Colonel Thomas L. Livermore, George Wigglesworth, James W. Rollins, Jr. ('78), James P. Munroe ('82), Arthur T. Bradlee ('88), and Frederick P. Fish. From the Faculty,—Professor Henry P. Talbot ('85), Professor Arlo Bates, and Professor Harry W. Tyler ('84). From the alumni,—Edwin S. Webster ('88), Arthur D. Little ('85), and Walter Humphreys ('97).

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THE OPERATION OF THE POINT SYSTEM

How it works out in Actual Practice—Its Influence on Scholarship and Student Interests

Now that the Point System has been in operation throughout the greater part of a year, a brief inquiry into its effects and into its promise for the future will not be out of place. Sufficient time has not yet elapsed for a thorough trial of this interesting experiment in student self-government, nor is sufficiently complete data at hand to show statistically the improvements already effected in the conditions at which the Point System was aimed, but no one who has been intimately connected with the various student activities during the year can help being impressed by the changes that have taken place and by the strong sentiment that has grown up for further improvements along these lines. It is the purpose of this article to point out these changes and to call attention to this growing sentiment.

During the year a number of changes have been made in the plan as originally outlined, as was to be expected with a scheme drawn up entirely *a priori*. These changes have been principally in raising or lowering the rating of various offices, as new experiences or conceptions have convinced the Institute Committee that they were originally placed too low or too high. The result has been a gradual adaptation of the plan to Institute conditions, so that the scheme is better and much nearer to the permanent form it will finally assume than when it was originally adopted. But this state of change has been a more or less unstable condition, so that the scheme has been unable to realize in this short period all the good of which it will ultimately be capable.

Nevertheless, in every department of student activity the Point System has struck at a fundamental error, and has accomplished something. As typical of conditions throughout the Institute, it

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may be well to consider those in the junior class, which always takes a leading part in undergraduate life, and in which the abuses at which the Point System was directed have been, perhaps, most common. Taking for comparison, in various years, the twenty-eight offices in the gift of the junior class, including executive offices and positions on the Technique Board and the Prom Committee, we find these distributed in the class of 1906 among 19 men, in 1907 among 22 men, in 1908 among 19, in 1909 among 21, and in 1910, under the Point System, among 23 men. While the contrast here is not very sharp, it is, nevertheless, significant, and the good effects of the scheme become much more apparent when, leaving out the less important positions, we consider those offices carrying with them a considerable amount of labor. Thus in 1906 3 out of 5 members elected to the Prom. Committee were also on the Technique Board, in 1907 3 out of 5, in 1908 4 out of 5, and in 1909 4 out of 6. This continued in spite of the fact that each year demonstrated more and more clearly the impossibility of doing full justice to the duties attached to each of these positions and at the same time maintaining a good record in scholarship. Under the Point System none of the 5 members of the Prom Committee elected from the Class of 1910 were on Technique, and, as a result, both of these important junior activities are proceeding without being hampered, as heretofore, by the presence of members too busy to do their share of the work.

These instances are only typical examples of what is true throughout undergraduate activities, and might be multiplied indefinitely. Everywhere it is plain that the Point System is distributing student offices more and more generally, interesting more and more students in undergraduate activities, and preventing the burdening of a few men with the duties that should fall to several times their number.

That a strong sentiment for the idea of office regulation has grown up, and is still growing, cannot be doubted by any who have attended meetings of classes, clubs and committees during the year. It has become more and more common for nominations to be scrutinized with a view to learning what other duties the nominees have, and even among clubs of purely social nature, in numerous instances,

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secretaries, treasurers, etc., have been chosen by preference from among those who were otherwise free from official duties.

In this sentiment there is great promise for the future. As the tendency grows stronger and stronger, more and more men will inevitably be drawn into active participation in student life, management by men who have time to perform their duties satisfactorily will raise the tone of every department, and eventually the Point System will achieve accomplishments beside which the improvements of the present year will appear insignificant.

MAURICE R. SCHARFF, '09.

Death of Major Zalinski

The alumni of the Institute who were here from 1872–76 will regret to learn of the death of Major Edmund Louis Grey Zalinski, who was military instructor at the Institute at that time and who made a great impression on the men who came under him. Major Zalinski died on March 10, at the age of sixty years. He was best known for his development and interest in the pneumatic dynamite torpedo gun, which uses pneumatic power in lieu of explosive and throws a torpedo projectile weighing 100 pounds, charged with 500 pounds of high explosives. Major Zalinski was born in Russia-Poland, and came to this country when he was four years old. He entered the army in 1864 as volunteer aide-de-camp to General Nelson A. Miles, remaining until the close of the war. He then entered the regular army with the 5th United States Artillery, serving as professor of military science at the Institute, and afterwards he was graduated from the Fort Monroe Artillery School and the Willets Point School of Submarine Mining. In 1890 Major Zalinski made an official trip through Europe, visiting nearly every country and studying methods of warfare, and later visiting South America, Japan and China on the same errand. On his return he was retired from the army with the rank of Major in April, 1904.

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INCREASED ATHLETIC INTEREST

Fencing Team Undefeated—Track Team within 2-5 Seconds of World's Record—Technology Admitted to I. A. A. A. A.

With the closing of Tech Field, which always takes place immediately after the annual contest between the two lower classes known as Field Day, there begins what might be called the indoor season of athletic activity, There has been an unusual amount of participation in the minor sports during the winter, and the results of the various contests which the Institute teams have entered show a corresponding rise in the standards of our ability in these directions.

The most successful of the Technology teams is the fencing team, which is thus far undefeated, with but one more meet to face, the intercollegiates at New York on March 27. The teams they have defeated and the respective scores are as follows: December 5, Boston Y. M. C. A., 1; Technology, 8. December 12, Fenway Studios, 2; Tech, 7. February 24, Columbia, 2; Tech, 7. March 7, Springfield Training School, 1; Tech, 10. March 13, Yale, 12; Harvard, 2; Tech, 13. The last meeting was the preliminary round of the intercollegiate meet, the two high teams qualifying.

On December 22 the annual championship of the Institute was won by H. G. Knox ('10), a graduate of the United States Naval Academy and the mainstay of the team. Mention should also be made of the good work of Captain V. C. Grubnau and E. M. Loring, the third member of the team.

The basket-ball team gave promise at the first of the season of unusual brilliancy, defeating the Dartmouth, Williams and Harvard teams in succession. On the annual trip, however, this record was not maintained. A series of accidents, serious enough to make it necessary for the best players to give up the game for some time, resulted in the bad defeat of the team by Wesleyan, College of the City of New York and New York University in four nights,

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one victory, over Manhattan College, being insufficient to prevent the demoralization of the team, and a loss of form from which they have not been able to recover. Captain Wentworth and Parker played the best game for the Technology team.

The hockey season, shortened considerably by the open character of the winter, has been on the whole very successful. Of the six games played the team won four and tied one. The good quality of playing done by the team is shown by the awarding of the insignia, the letters "hTt," to five men,—Pain ('09), Gould and Taylor ('10), Gould and Bakewell ('11) and Sloan ('12).

The indoor season of the track team began officially on December 12. The first event of the new year was the relay contest arranged between teams representing the different courses of instruction in the Institute. This is one strong indication of the growing interest in athletics among the undergraduates.

On January 8 the annual indoor interclass meet was held, the juniors winning handily. Three Institute indoor records were broken, those for the quarter and one-mile runs and the pole-vault.

At the Boston Athletic Association Games, held on February 6, the one-mile relay team easily outran that from Syracuse, making the fastest time of the meet, and E. Stuart took second place in the high jump, clearing an actual height of 5 feet, 10 inches.

Two weeks later we lost to Columbia and Harvard in New York. This was attributed by many to the fact that the track was of a widely different type from that on which the men were accustomed to running. On the same evening our two-mile team won from Tufts at the Lawrence Light Guards meet in Medford, and a week later the one-mile team won from Wesleyan at Troy, breaking the intercollegiate record and coming within 2-5 seconds of the world's record. The members of this team are Fernstrom ('10), Moses, Salisbury ('11) and Gram ('09), track captain for the coming season.

The annual fall handicap run was held December 5. Howland won very handily from scratch, breaking the record made several years ago by E. H. Lorenz. The present mark for the eight-mile course is 46 minutes, 23 seconds. A significant feature of the race was the participation in it of eleven freshmen.

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In the intercollegiate cross country meeting at Princeton our men finished 8th, 19th, 22d, 24th and 27th, which would have given us second place. We did not, however, receive any score, as we were not members of the association, and ran only through the courtesy of its officers. The spring season began on February 20, with a large and promising number out, and the prospect of a strong team later in the year.

By establishing a rule that only such members of the first-year class as took part in some regularly organized branch of athletics might be excused from the compulsory gymnasium work introduced this year into the first-year requirements, the Faculty has not only taken official cognizance of our sporting events, but has given them a very appreciable impulse. It is to be hoped that some day this requirement will be extended throughout the entire four years of the course.

'Varsity baseball was the subject of considerable agitation early in the year. The project was abandoned, however, and wisely. We are not yet ready for more than one 'varsity team in the major sports, even though there is considerable interest among a certain number in this subject every year.

One team, which, although not new, is coming into notice for the first time this year is the Gym Team. On March 16 they had a meet with Amherst, in which very excellent work was done by all concerned. Further growth may be expected in this direction now that the freshmen are required to take physical training.

An additional incentive to participation in athletics is given by the establishment of four new trophies for annual competition by members of the Alumni Association. These are the J. L. Batchelder one-mile cup, the J. A. Rockwell quarter-mile cup, the Benjamin Hurd high hurdles cup and the F. H. Briggs "all-'round" trophy for the man scoring the highest total number of points in the spring meet. Through the generosity of these graduates, provision has been made for replacing the cups each year by their duplicate or equivalent, so that the winner of the trophy each year is the permanent holder of it.

The last item to be mentioned is the admission of the Institute

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to the Intercollegiate Association of Amateur Athletes of America. This is the body in control of the annual games at which the inter-college championships are decided, and in which all the major colleges are members. In becoming a member of this organization, the Institute has a new field of effort opened up to it. Here our first-class athletes—and they're becoming more common than they were—can compete with men from colleges which have always considered themselves invincible, and success will reflect great credit on Technology.

There are indications now that we may make a very creditable showing next May, when we first appear in that company.

H. A. Rapelye, '08.

Mrs. Rogers' Birthday

On the 4th of March Mrs. Rogers, widow of the first President of the Institute of Technology, celebrated her eighty-fifth birthday by an informal tea at her house, 117 Marlborough Street. No invitations were issued, but her many friends, especially from the Institute, called to offer their congratulations and to express their pleasure that her intellectual youth and vigor are matched only by that of her own Technology.

From November until May of each year Mrs. Rogers occupies her Boston house, and is active in many philanthropies, in attendance upon all that is best in music and literature, and especially in following with keenest interest the affairs of the school which is her husband's noblest monument.

The summer months, when she is not abroad, are spent in Newport, at "Morningside," on Gibbs Avenue, built by President Rogers and herself in 1872.

It is the fervent hope of every Technology man that the Institute may have the beneficent influence of her beautiful personality for many years to come.

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AN OUTPOURING OF ALUMNI

Annual Banquet breaks All Records—Enthusiastic Welcome to President-elect Maclaurin

A year full of great promise for Technology was ushered in on January 14 by the annual alumni banquet at Symphony Hall, which was record-breaking in point of numbers and interest in the annals of the Association.

Every available square foot of space in the large exhibition hall was filled when the graduates marched in to the accompaniment of the undergraduate orchestra. The foliage of tropical plants banked the walls, relieved by cardinal and gray banners and decorations, and with class panels which encircled the hall. Behind the speakers' table, amid a bank of palms, was a bust of President Rogers, encircled by a wreath lit up by electric lights.

Standing in their places, the members of the forty graduating classes present sent up a mighty cheer for Technology, and the Institute Glee Club, massed on the steps, led a lusty song for "Dear Old M. I. T." At this point the lights were extinguished, and hearty cheers were given for Technology, Noyes, Maclaurin, as the names successively appeared in electric lights above the heads of the Glee Club.

Enthusiasm ran high during the dinner, the old cheers of past years mingling with the catchy class yells of the later classes, many of them based on local hits or bringing into prominence some favorite son. Between the courses the Glee Club led in singing the old songs; and, when the orchestra began the introduction to the favorite Stein Song, the assemblage rose and the response from half a thousand throats awoke the echoes of the vaulted ceiling.

A weird ceremony was introduced in the bringing in of the ices, when the lights were again extinguished. The long line of waiters bearing the dishes illuminated with red and gray lights was led

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by two Scotchmen in Highland costume, playing a Scottish national hymn on what Dr. Maclaurin calls his "national weapons," the bagpipes. The pleasure of Mrs. Maclaurin at this part of the proceedings was evident to all.

At one point in the program the Glee Club, grouped in front of the speakers' table, sang the new song, "Alma Mater, Technology," under the leadership of its author, Clinton W. Kyle ('09).

The dinner was a welcome to the President-elect, Richard Cockburn Maclaurin, but it carried with it grateful recognition of the services of Acting-President Arthur A. Noyes ('86), and its enthusiasm and success was a happy portent of greater events of the year to follow.

President Walter B. Snow ('82), of the Alumni Association, acted as toastmaster, and besides Dr. Maclaurin and Dr. Noyes the list of speakers comprised Governor Eben S. Draper ('78), Dr. Robert S. Woodward, president of the Carnegie Institution, and Edwin S. Webster ('88), the new president of the Alumni Association.

President Snow spoke of the tremendous increase of interest in Technology affairs, brought about by the reorganization of the Alumni Association, in such a way that it will become an important factor in the further advance of Technology. He stated that five alumni associations had been formed during the past year, making a total number of twenty-five. "Do you realize," he said, "that this Association numbers about 4,500 members, and there still remains nearly an equal number of potential members, the non-graduates, who, standing shoulder to shoulder with us who happened to graduate, are doing the work of the world,—who are making names for themselves and who are worthy to be with us in this Association? The Association stands open for their admission with practically all the privileges which pertain to active membership." Mr. Snow then introduced Governor Draper, who spoke as follows:—

I am extremely glad to be here this evening in my official capacity to extend the welcome of the Commonwealth of Massachusetts to your new President. The Commonwealth of Massachusetts has always been in-

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terested in education. Her standard has been high; and we believe, speaking as men of Technology, that in the selection that has been made the average of the great institutions of this Commonwealth will be raised higher than it ever has been before. We welcome him for what he has done and for what we expect he will do. It is peculiarly pleasant for me that the first great meeting of this kind which I have attended since I have been the Governor of this Commonwealth should have been connected with the Institute of Technology.

In coming here to-night, I assure you that I have been tremendously impressed by this gathering. I remember the Institute in a very different day from this. We could not have had any such alumni meeting as this in my time. There were only forty-four men in my class, and now you have substantially ten times that number in an entering class. The Institute has grown enormously, not merely in numbers, but in influence and in the respect of all educated men in this country.

You have serious problems before you as members of the Alumni Association, and the President of this Institute is not coming to a holiday task. Whatever the men of the Institute may have been in the past, they have not been afraid of work. If they had been afraid of work, they would never have been members of the Alumni Association. And the fact that you and he have serious problems before you does not daunt you, I am sure, but is simply an incentive to greater effort.

If the Institute is to maintain its place in the future, and advance as it should advance, I believe it must do it by maintaining its standard as high as it has been, aye, even higher in the future than it has been in the past. I don't believe the Institute wants to lower its standard in any way for the sake of getting more pupils or for the sake of competing with other educational institutions.

At this time it seems to me that the greatest question for consideration in the Commonwealth of Massachusetts is the question of education. I have had something to say about this very recently which, I am happy to see, has met with the approval of some people. I presume it has met with the disapproval of others. But, in any event, I have expressed my honest opinions, and I am not in the habit of running away from them.

This question of industrial education is to my mind one of the most important that has arisen in any state, and especially in our state in recent years. And, while I tried to point out the other day my idea of the differences between industrial education and the ordinary common school education, we don't want to get any idea into our heads that industrial educa-

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tion is the education that a man gets at the Institute of Technology. There is just as great a difference in my mind between the education which should be given by this institution and what I believe to be ordinary industrial education as there is between industrial education and the common school education. And I believe that this Association can have no more important work in the future, save one, than for its members to devote themselves, as educated men, to helping the people of this Commonwealth to a true understanding of what industrial education is and how much of a benefit it can be to the people if properly started and cultivated. The one duty, of course, which is of more importance than that is the duty of devotion to your Alma Mater, the Institute of Technology.

In coming here to-night I came to enjoy myself, and I never can do that when I am attempting to make a speech. I expect to enjoy myself for the rest of the evening in hearing the men who are to speak to you. But it has been really a great pleasure to me to bring here tonight the greetings of the Commonwealth to your new President. May he be a great success in his great position! We will all loyally support him, and do all in our power to see that his régime is successful and that the Institute of Technology goes forward to greater accomplishment in the future than in the past. I thank you very much.

In introducing Dr. Noyes, Mr. Snow said:—

"Though not bearing the full title of President, his work has been that of *acting* President in every sense of the word. There has been no break in the work, and there will be none when his successor takes it up. His work has been a work of love and of self-sacrifice, the full measure of which we shall not know until the years have passed by. But enshrined with the names of Rogers, Runkle and of Walker and Crafts and Pritchett shall be that of Dr. Arthur A. Noyes, of the Class of '86."

Professor Noyes spoke upon two general subjects—the development of the Institute during the past year and the relations of the alumni to the Institute.

The first of these subjects was discussed briefly under each of the four heads,—the development of the Institute's equipment, of its educational work, of its student life, and of research in both pure and applied science.

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In speaking of the educational future of the Institute, he said, "I believe it is highly desirable to require a five-year period of study for the completion of all our regular courses in science and engineering, as soon as it can be arranged for. Except for students of rather unusual ability, it has, I think, come to be recognized that a period of four years is too short a time in which to give satisfactorily the combination of general, scientific, and professional education which the Institute aims to offer. I believe, therefore, that the five-year course must come as soon as possible, if the Institute is to continue to meet successfully the competition of other institutions which are more and more requiring their engineering students to spend five or six years at college and in the professional school. With such an extension of our period of study, there would be offered to the Institute a unique educational opportunity. It would, I hope, never be led to adopt the ineffective university plan, now so prevalent, of two or three years of elective collegiate work of a cultural character as a preliminary to entering upon the strictly professional courses; but it would, as now, offer its students definite courses consistently laid out with the aim of producing at the same time broadly educated men and efficient engineers, architects, or scientific experts, the difference from the present plan being mainly that five years instead of four would be devoted to attaining this result. Just what form should be given to such five-year courses and what degrees should be awarded should, of course, be carefully considered by the Faculty, who should receive the advice of the alumni and others interested in the Institute. It may not, however, be without interest for me to suggest the plan that seems best to me. I would offer to students for the first three years of their study, in place of the present thirteen courses, only the choice between three courses, —one in general engineering, one in general science, and one in architecture,—and would award the Bachelor-of-Science degree for the successful completion of any of these courses. The course in general engineering, for example, would include, in addition to cultural and fundamental subjects, only those engineering subjects in which every engineer should receive instruction, whether he is to follow the profession of civil, mechanical, electrical, or

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other branch of engineering. The remaining two years of this period of study would then be devoted mainly to more specialized professional work, for the completion of which the degree of Master of Science in Civil, Mechanical, Electrical Engineering, etc., might be awarded. In a similar way the three-year course in general science might be preliminary to more specialized work in the sciences of chemistry, physics, biology, geology and mining.

The adoption of such a plan, however, involves largely increased space in our laboratories and class-rooms, added equipment, and greater financial resources. It would, moreover, be questionable policy to enter upon it before our tuition fee, at any rate in the lower years, can be substantially reduced, owing to the financial burden that would be imposed on our students."

Professor Noyes spoke of the relations of the alumni to the Institute in part as follows:—

"This Alumni Association, as the first article of its constitution says, exists for the purpose of promoting the interests of the Massachusetts Institute of Technology. It is not primarily an organization for increasing sociability or good fellowship, though it should fulfil that function also; but it is essentially an organization for advancing the welfare of the Institute. I want first to tell you how great has been the assistance afforded by the alumni during the past three years on the financial side by the contributions they have made toward our current expenses. An average sum of $41,600 has been contributed each year during the past three years; and this has enabled the Institute to do many things in the line of improvement and development which would have been entirely impossible without it. During the past year the alumni contribution has been used in not far from three equal parts for three lines of development: first, for the development of the plant and equipment of the Institute; second, for the improvement of the conditions of student life, under which are included the provision for half the cost of the new Technology Union, the contribution for the support and maintenance of the athletic field, and provision for the personal conferences in mathematics and in English between the first-year students and their instructors; and, third, for increasing

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the salary list of the Institute, thus enabling us to secure and retain the most successful teachers, and to increase the number of instructors, so as to provide for more individual work.

"I want, however, to speak tonight especially of the assistance which the alumni can render in other directions than the financial one. In order that they may aid us effectively, it seems to me the first condition is that the alumni know the Institute thoroughly,—that they keep in touch with it and with its progress. Many alumni picture to themselves the Institute as it was when they were there, ten or twenty years ago. It is constantly developing, and many of the unsatisfactory conditions which then existed have passed away. This, for example, is true in a high degree of our student life and of the opportunities for outside student activities. Alumni should keep in touch with the Institute through THE TECHNOLOGY REVIEW, which is now a publication of this Association; and they should visit the Institute whenever they can. I am sure that such closer knowledge will lead them to an optimistic view of the future of the Institute and to satisfaction with the work which it is now doing. Such knowledge, too, will enable them to make our needs known to others who might be able to assist us, to bring to the attention of manufacturers the opportunity for a solution of their problems which the Institute offers, and to induce capable students to come to us. We are not interested in increasing the number of our students, but we are always desirous of securing young men of the highest type,—those not only of high scholarship, but of the best manhood. And the alumni have abundant opportunities as they go about the country to present to such young men the advantages which the Institute offers.

"Another way in which the alumni can often assist on this side is to secure in their own towns the establishment of scholarships in connection with the local high schools. If, for example, there were one or more free Institute scholarships at the various important high schools in New England, we should get very soon a class of picked men of high quality. Moreover, the existence of such scholarships is of great advantage in bringing to the attention of all the pupils of such preparatory schools the opportunities afforded by

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an education in applied science. It is a form of benefaction, too, that appeals to many men who like to do something for the youth of their own town.

"These are simply suggestions as to a few ways in which the alumni can assist the Institute. The coming years are to be years of great development, and in that period the function of the alumni is to be far more important than it has ever been before. In closing, therefore, I would give to you, as the watchwords of our coming development, Confidence and Co-operation,—confidence in the soundness of our educational system, in its great future and in its support by the community; and active, energetic co-operation in promoting its welfare among all those who are in any way related to or connected with the Institute.

"One of the great problems that was before us—that of securing an able, devoted leader, a worthy successor to Rogers and Walker —has been most happily solved. And we are now prepared to take up the next great problem, which is that of replacing the old temporary plant of the Institute, in its crowded surroundings, by a modern and permanent one, situated in a location which will better admit of the highest development of the Institute. As a supplementary expression of our immediate aims, I would therefore give you—'the Institute, with its old standards and ideals, new-built on a new state.'"

Mr. Snow introduced the President-elect as one who claims no clime nor country, but in the broadest and best sense as a man of the world, trained as a teacher and administrator, a close student of man as well as of matter, and builder of the new Technology that is to be. Dr. Maclaurin spoke as follows:—

Mr. President, your Excellency, Ladies and Gentlemen,—May I say at the very outset that the fact that in addressing its members I can use that term "ladies" is to my mind one of the most hopeful and significant features of the Institute. Now, ladies and gentlemen, you have all, at some time or other, experienced the pleasure of a hearty send-off, with your friends around you, smiling faces, waving handkerchiefs, and all the signs of good will. You feel assured that the ship on which you stand is the very best that is afloat, and that the dangers and difficulties of travel have been immensely exaggerated by the stay-at-homes. And you also feel that the

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long, relentless roll of the ocean that you will probably encounter later is a thing that at such a time ought not to be considered at all. Now, I expect that it is with the view of putting me in some such frame of mind that you have invited me to be your guest to-night, and through your speakers have said so many things that cannot fail to please. I need not say that I feel grateful for this expression of your kindly feeling, and hope that the relations between the President and the alumni will always be maintained at this high level of cordiality. In that respect the Institute began wonderfully well, for I read that at the very first annual meeting of the alumni it was resolved "that we tender to President Rogers the expression of our love and gratitude." I believe that that feeling toward the President has been maintained right down to the present time. At any rate, if I may speak for myself, I have received from the members of the Association letters and telegrams assuring me of the utmost cordiality and good will. And I cannot fail to be touched by such expressions and to be braced for strenuous action by the assurance of your cordial sympathy.

Now, on such an occasion and with so much encouragement, one can scarcely fail to be hopeful even if not unduly optimistic. It seems to me that, whatever mistakes I may make, the Institute must be carried along on the rising tide of science. We have all noticed that the tide of human achievement rises and falls somewhat irregularly. Now it seems to come in very slowly, so that you can hardly be sure that there is any motion at all. Again it advances with a rush, and carries everything before it. At the ebb one is apt to be pessimistic. And so, not so very long ago, a distinguished professor of this country deemed it necessary to combat in a spirited address the idea then prevailing that the day of science had ended, and that there was nothing more of the first importance for science to discover. That, I may say, was before the day of Faraday and of the wonders in physics and chemistry and biology that have followed since. Now, this Institute was founded when the tide of achievement was very high. Think of those wonderful years around 1860! It would be difficult to fix your attention on a more interesting period in the world of activity. In active political life, you know that the clouds were gathering that broke into the awful storm of the Civil War, one of the most terrible as also one of the most glorious in human history. There are men here to-night who will naturally think of that war on its awful side. They know, having seen it, what it really meant in blood and treasure. But those of us who are of a younger generation are much more likely to think of its glorious side,—the splendid victory that it won for human freedom and the federal idea.

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Now, those are two ideas—federation and freedom—that have dominated the political world ever since. You know, of course, that the federal idea was not a new one, but you know also that men gravely doubted whether it could stand the test of modern conditions. And you know how important was the decision not only for this country, but for most of the world,—how it affected Switzerland, how it affected Germany, how it affected large and important parts of the British empire, such as Canada, Australia and South Africa. But, great as was the importance of the idea of federation, there was another idea that took its rise at the same time, which most of us will probably agree was even more important. And that was the idea of development, of evolution, if you prefer that term. You remember that it was in 1859 that Darwin's "Origin of Species" appeared. It was in the same year that the principles of spectrum analysis were clearly explained, and it was just about the same time that Maine's "Ancient Law" was published. All these gave an immense impetus to the idea of development. You all know more or less of what Darwin did for biology. You all know probably something of what spectrum analysis has done for the idea of development in a larger sphere. It has enabled us to trace, not the rise and fall of a mere species, not the decline of a Roman empire, but the growth and gradual decay of solar systems and the like. And as for Maine's "Ancient Law," it set men's minds working along the lines of the historical development of human institutions,—a field that has proved so fascinating and so fruitful in the intervening years.

Now, a time that could give rise to such far-reaching ideas was no ordinary time. And it was just at this time that the idea of the Institute germinated in the fertile brain of Professor Rogers. He, trained as a pure scientist, saw clearly the coming of the day of applied science. And he saw also clearly that it was the duty of this community to prepare itself for the important changes that would be wrought by the coming of that age. And I think that there could have been no greater effort of statesmanship and patriotism than that of William Barton Rogers, and little or nothing that could have been nobler, if you have a proper prospective of the vast human interests involved.

Since that day the tide of science has ebbed and flowed a good deal. Science has suffered not a little from foolish advocacy. It early had to fight its way into schools and colleges, and got into a foolish conflict with humanism, as if there could be any real conflict between science and humanism. And then, again, some men of science, mostly of the rank and file, but with a few of the leaders, made exaggerated claims as to the domain of science,

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and they proposed by its means to solve problems that had hitherto defied solution. In due time they, too, "came out at the same door wherein they went." And this led to not a little disappointment and not a little foolish talk about the bankruptcy of science. One good result of that has been that men of science now see more clearly what are their real limitations. Fixing their attention on their proper work, they are now once more upon the rising tide. For all of you who are in touch with research know that this is one of the great epochs in the history of science. Many problems that have long been stumbling-blocks in the path of science are being solved; and in chemistry, physics and biology advances are being made that we all regard as epoch-making.

Now, what has all this to do with Technology? Much every way. For, as Dr. Noyes has reminded you, and you probably well know, there is the closest possible relation between pure science and applied science. And with an alert people you can reasonably expect a great day for applied science to follow rapidly on a golden age of research. I think that the presence here tonight of Dr. Woodward is a significant fact. He, as you know, presides over an institution that is destined to play a great part in the history of the world,—an institution devoted wholly to the prosecution and encouragement of research. I think that our admiration for Dr. Woodward, and those of us who know him personally will admit no limits to that admiration,—I think that admiration typifies the attitude of Technology to research.

My point is that, as we are now again on the rising tide of science, we have reason to be hopeful in Technology. Whether the tide will rise as high as that in the period of 1860 and thereabouts, it is difficult to say. But, even if it does not, there are features of the situation which should make us hopeful. See how different are the conditions under which we must work from those the dauntless founders of this Institute had to face. In those days science had scarcely begun to come into its own. Even its contributions to material advancement were grudgingly admitted and what it had done for morals and for the intellect was scarcely appreciated at all. Even today I doubt very much if these things are properly recognized. However, all men, all thinking men at least, are beginning to see that there has come about within the last fifty years an enormous change along the line of freedom of thought. And all men recognize that that change is mainly due to science. It is also mainly to science that is due the general recognition of the principles that should guide our personal and national life, founded on ideas of law and of order. But perhaps more important than all is

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the general spread of a thorough open-mindedness. This is something which touches us on the moral, on the intellectual, and on the practical side of life. And nowhere is it more important than in the field of Technology.

Some of you have read an article under the very attractive title, "How to win Fortune," written some twenty years ago by Mr. Carnegie. He discusses, among other things, the college education of the day. And, after making a list of the leading men of business in this country, he says, "The almost total absence of the college-bred man from this list is to be deeply pondered." He tries to explain the absence. And then he goes on to say that a different state of things is to be expected and is actually found with those who have been trained in the newer schools of technology. He says that those young men have a great advantage in that they are free from prejudice and thoroughly open-minded. I hope that that is true, for it seems to me that, if it is true, it is quite sufficiently important in itself to make us spend all our lives in the service of Technology.

Now, while the refining and elevating effects of science were little recognized, and even its very utility in practice was doubted, it is not surprising that it was neglected in the schools. It was met by opposition from unexpected quarters. Men strove to show, and they succeeded in getting people to believe, that there was something inhuman about science, or the teaching of it, and that, lacking humanity, it did not afford a good training ground for men of affairs. I believe that view is current even today, and that people don't sufficiently recognize what utter nonsense it really is. I hope, however, I need not say to you that this institution, or any similar one, could not better be described than as a great public service corporation,—an institution specially designed to train men to serve their fellows and to serve them well by a thorough knowlege of the needs of the modern man. And I need not tell you that not only is this institution well designed for such a purpose, but that it actually turns out men able and ready to play their part in public life. The fact that we have with us tonight an alumnus who is the leading man of affairs in this state is sufficient evidence of that.

I have said so much about the changing attitude toward science in general that I have left myself little time to say anything about the changing attitude toward applied science. But that is something so well recognized that I need scarcely mention it. Think of the fact that, when Rogers founded this Institute, he had to write to a parent that there was not a single school in the whole of this country where a man could be trained in mining or metallurgy. We have changed all that. And now it is generally recognized that you can test the intelligence of a nation by its attitude to applied

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science. And so I think we have reason to be hopeful on general grounds as to the prospects of such an Institute as this.

Now, I notice that at the very first meeting of the Alumni Association it was agreed that you should meet annually and that at such meetings you should freely discuss the condition and the policy of the Institute and freely criticise it. I have no doubt that there has been some such discussion and criticism tonight. And I want to urge upon you your duty of communicating that candid discussion and criticism to those of us who are primarily responsible for the government of the Institute. If you are young graduates, you are probably conscious of your shortcomings as you are turned from the mint, and you may have suggestions that will be helpful in putting your successors in a better position. If, on the other hand, you are older graduates, then you will at least have had means of testing the fitness or lack of fitness of the younger men who come into your employ. And, of course, your knowledge of the actual conditions of life should make anything you have to say, any suggestions you have to make, of the greatest value.

The other thing that was to be discussed, according to your original resolution, was the policy of the Institute. At this late hour I need say little about that. You are probably aware that I don't come here to change your policy. I come, rather, to carry out, with the best of my ability, a policy that has been well established and of which I thoroughly approve. You are also probably aware that, as far as our problems are concerned, in my judgment the most pressing problem we have to face is the provision of a proper site and buildings for this Institute. It seems to me a sort of irony of fate that on the very first occasion I meet with you I should have to talk about buildings and sites, for I have so often criticised the educational authorities for acting as if buildings made the institution. I hope you will not misunderstand me in this, for the Institute of Technology does not require to be made. It is made. Great as is your loyalty and enthusiasm for the Institute, I doubt if you fully realize its truly international reputation. That reputation is due largely to the broad lines on which it was laid out by Rogers and to the splendid work done by Rogers' successors, in particular General Walker. The fact that it needs a change of site now is due not to its failure, but to its success, to its present greatness. And it seems to me that, this fact being recognized, the sooner we make the change, the better.

Of course, this change will lay a heavy burden of work and responsibility upon us all. And I need not say that there can be little hope of success unless

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we have your active and whole-hearted sympathy and support. You can help in countless ways, as Dr. Noyes has suggested, not only directly, but indirectly by your influence upon others. I suppose that the first thing to do will be to organize your efforts. But this country has such a genius for organization that I need not do more than suggest such an obvious fact. Then, possibly, our greatest hope, for financial support at least, lies in the state of Massachusetts. But that state and its capital are famous throughout the world for the knowledge-seeking spirit of their citizens, and the interests of those citizens are so intimately bound up with the applications of science that it seems to me they can hardly fail to recognize the claims of Technology. I think also it is extremely improbable that the citizens of this state will allow to languish an institution that has done them so great a credit in the eyes of the outside world. But this institution is not merely a local affair, so that we can look beyond this state for aid. I understand that it draws almost half of its students from other parts of the Union. And, that being so, we can well expect support from a distance as well as from our immediate neighborhood.

The citizens of this country have a reputation for liberality. They have also a reputation for being thoroughly practical, practical to the core, and it would be a strange paradox if they should prove illiberal to so practical an institution and one so thoroughly deserving of support.

Dr. Robert S. Woodward, president of the Carnegie Institution, who was predecessor of Dr. Maclaurin in the chair of mathematical physics at Columbia, was the next speaker. Professor Woodward spoke of the beginnings of the schools of technology in America in what appeared to him to be a heroic age. "It was the epoch of the emergence of the scientific school and of the new order of training," he said. "As Professor Maclaurin has indicated to you, the schools of science came to the front with difficulty. They arose, not by reason of the other and the older forms of education, but in spite of them. They have therefore, in addition to their initial and main purpose for existence, accomplished a great work. They have shown us, in addition to their main purpose, that there can be no such thing as a trust on culture. The older schools of learning, known as the humanistic schools, look down upon the rising tide of science to which Professor Maclaurin has referred, the tide which has brought on our modern schools of technology and science.

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They were crowded with the young man who studied Latin and Greek in order that he might earn a living by teaching others that they possessed higher moral qualities than the man who studied engineering in order that he might learn how to build bridges that would not fall down and kill folks." Professor Woodward spoke of the development of the graduate schools and research work and the difficulties that beset a modern institution that is pioneering along these lines.

Mr. Edwin S. Webster ('88), the newly elected president of the Alumni Association, who was next introduced, called special attention to the importance and dignity of the new Alumni Council, which, he said, would be able to aid the Institute in a very material way. Mr. Webster emphasized the importance of the Reunion, and asked for the co-operation of every man in order that it may accomplish its full measure of success.

New Term Members of the Corporation

At the stated meeting of the Corporation held March 10 the Corporation selected three men as term members from the five names presented. The three successful candidates are Walter B. Snow ('82), of Boston, Theodore W. Robinson ('84), of Chicago, Charles R. Richards ('85), of New York. These men will serve for a period of five years. The three term members of the Corporation who were selected to serve for the first period were retired on the election of the new members. The retiring members are F. H. Newell ('85) and E. S. Stevens ('68), Richard H. Soule, who was one of the three term members whose term expired in 1909, having recently died.

Class news this issue is unusually full. The classes not represented are '70, '71, '72, '73, '74, '76, '77, '80, '83, '90, '91, '03. We hope that in the near future every class will be represented.

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THE NEW ALUMNI COUNCIL

Members of the new Alumni Council have now been named, except the representatives of some of the local alumni associations. The first meeting of the council will probably be held about the middle of June, when it is expected that the alumni will be asked to co-operate with the Corporation and Faculty in definite ways. The council is so organized that it is free to accomplish things without restraint, and the whole Association looks to it for results.

The council is made up as follows:—

Five latest living ex-presidents:—

W. B. Snow. Frank L. Locke.
Everett Morss. Samuel J. Mixter.
Frederick H. Newell.

Local societies of the M. I. T. and representatives:—

Technology Club of the Merrimack Valley, George Bowers ('75).
Washington Society of the M. I. T., I. W. Litchfield ('85).
Technology Club of Philadelphia, Percy E. Tillson ('06).
Technology Club of New York, Francis G. Green ('95).
Pittsburg Technology Association, Warren I. Bickford ('01).
North-western Association of M. I. T., I. W. Litchfield ('85).
Rocky Mountain Technology Club, representative not appointed.
Technology Club of the Connecticut Valley, representative not appointed.
Technology Club of Buffalo, representative not appointed.
The Cincinnati M. I. T. Club, representative not appointed.
Annapolis Society of the M. I. T., representative not appointed.
Technology Club of Rhode Island, representative not appointed.
Technology Club of New Bedford, representative not appointed.
Technology Club of Hartford, Conn., representative not appointed.

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Vermont Technology Association, representative not appointed.
Technology Club of Minnesota, representative not appointed.
Technology Club of Northern Ohio, representative not appointed.
The Technology Club of the South, representative not appointed.
Technology Club of Central Pennsylvania, representative not appointed.
Technology Club of Northern California, representative not appointed.
Technology Club of Southern California, representative not appointed.
M. I. T. Club of Central New York, representative not appointed.
Inland Empire Association of the M. I. T., representative not appointed.
Technology Association of Oregon, representative not appointed.
Technology Club of Puget Sound, representative not appointed.
Detroit Association of the M. I. T., representative not appointed.

Representatives at large:—

To serve for one year.	*To serve for two years.*
Edward Cunningham ('91).	C. R. Cross, ('70).
Joseph H. Knight ('96).	A. D. Little ('85).
H. Souther ('87).	Charles T. Main ('76).
J. Swan ('91).	G. F. Swain ('77).
A. Winslow ('81).	J. P. Tolman ('68).

Class representatives:—

'68, Robert H. Richards.	'75, Thomas Hibbard.
'69, Howard A. Carson.	'76, John R. Freeman.
'70, E. K. Turner.	'77, R. A. Hale.
'71, E. W. Rollins.	'78, C. M. Baker.
'72, Maurice B. Patch.	'79, E. C. Miller.
'73, F. H. Williams.	'80, George H. Barton.
'74, George H. Barrus.	'81, John Duff.

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'82, James P. Munroe.
'83, Harvey S. Chase.
'84, Harry W. Tyler.
'85, I. W. Litchfield.
'86, Arthur G. Robbins.
'87, E. G. Thomas.
'88, A. T. Bradlee.
'89, Walter H. Kilham.
'90, William Z. Ripley.
'91, Charles Garrison.
'92, Leonard Metcalf.
'93, Frederic H. Fay.
'94, S. C. Prescott.
'95, Andrew D. Fuller.
'96, J. A. Rockwell.
'97, C. W. Bradlee.
'98, C.-E. A. Winslow.
'99, H. J. Skinner.
'00, H. E. Osgood.
'01, Robert L. Williams.
'02, C. A. Sawyer, Jr.
'03, F. A. Olmsted.
'04, M. L. Emerson.
'05, G. DeW. Marcy.
'06, George F. Hobson.
'07, Lawrence Allen.
'08, H. A. Rapelye.

Two More Trophy Cups

Benjamin Hurd ('96), has offered a cup for competition at the annual Technology spring class meet in the 120-yard high hurdles event on a similar basis as the offers of cups in the mile run and the 440-yard dash recently made by J. L. Batchelder, Jr. ('90), and Dr. J. Arnold Rockwell ('96), respectively. A separate cup will be given each spring, and the cup becomes the permanent property of the winner of the event.

"Ben" Hurd established a Technology record of 16 3-5 in the high hurdles in 1894. This record stood until Ovington made 16 2-5 in the Dartmouth meet at Hanover in 1903. Hurd also held for a time the record of 26 1-5s in the low hurdles, making it in 1895.

Major Frank H. Briggs ('81), has just donated a cup to be given to the best all-round athlete at the Institute. This is to be renewed by the donor each year, so that the cup becomes the permanent possession of the winner.

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PROFESSOR SPOFFORD SELECTED

He will succeed Professor Swain as Hayward Professor of Civil Engineering

The Executive Committee of the Corporation at its stated meeting on Friday, February 26, voted to appoint Professor Charles M. Spofford ('93) to the Hayward Professorship of Civil Engineering, which will become vacant at the beginning of the next school year through the resignation of Professor George F. Swain. The Department of Civil and Sanitary Engineering will be organized for the ensuing year upon the following basis: Professors Allen, Porter, Spofford and Robbins will be asked to take charge of the instruction in railroad engineering, hydraulic engineering, structural engineering and topographical engineering, respectively. Professor Allen will be asked to act as administrative officer of the department in its general relations, Professor Spofford to act as representative of the course in Civil Engineering in its relations with the Faculty and with students, and Professor Porter to act as representative of the course in Sanitary Engineering in similar relations.

Mr. Spofford was graduated from the Putnam School in Newburyport in 1889, and entered the Institute, receiving the degree of Bachelor of Science in Civil Engineering in 1893. During the following summer and fall he was engaged in field and office work upon the survey of the Massachusetts and Vermont boundary line. At the opening of the second term of the school year 1893–94 he returned to the Institute to take up a post-graduate course in civil engineering under Professor Swain. After completing his post-graduate studies in 1894, Mr. Spofford entered the employ of the Phœnix Bridge Company of Phœnixville, Pa., remaining there until October, 1896, when he resigned to become assistant in civil engineering at the Institute, but returned for the summers of 1897 to 1900, inclusive. He thus received nearly three years of training in the engineering corps of one of the leading bridge companies of

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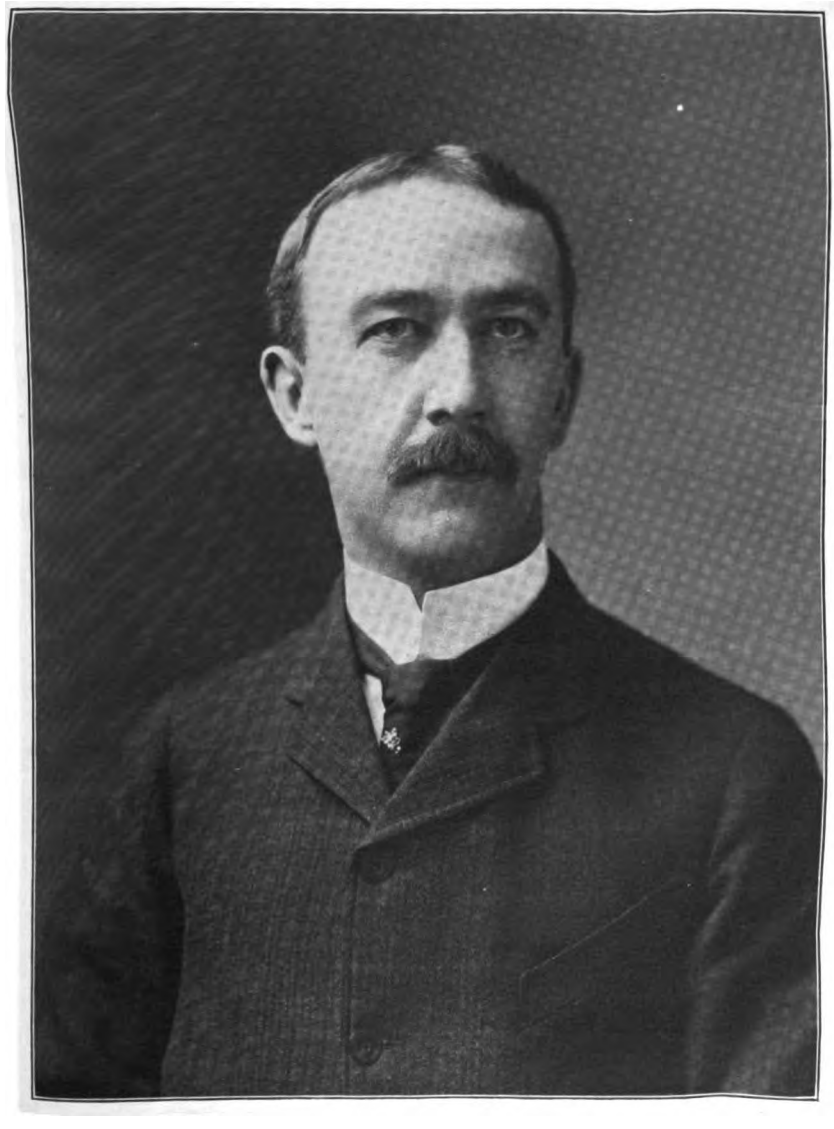

PROF. CHARLES M. SPOFFORD, '93.

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this country. During the nine years that Mr. Spofford was connected with the teaching staff of the Institute, he spent several summer vacations and some time during the school year in the employ of the Engineering Department of the City of Boston as assistant engineer upon the design of a number of bridges, including the Broadway, Atlantic Avenue and Northern Avenue bridges, and upon miscellaneous structural work. At that time the bridge work of the city was under the charge of the late John E. Cheney, who was one of the ablest structural engineers in this country, and who achieved a wide reputation through the excellence of his designs. During that period Mr. Spofford was associated with Mr. Cheney in consulting work upon bridges and buildings. He has examined and reported upon the condition of a number of bridges and other structures, and, as consulting engineer for the Boston Elevated Company, examined, reported upon and designed the re-enforcement required to place a number of Boston bridges in condition for heavy street car traffic. The work included a very original and ingenious design for strengthening the Boylston Street bridge over the Boston & Albany Railroad. Since going to Brooklyn, Professor Spofford has been employed by the city of New York as an expert upon a question relating to the strength of mortar. He has also done experimental work for one of the prominent contractors of New York and for one of the larger asphalt companies of the city. His principal consulting work in New York has been that done during the summer of 1908, when with Mr. C. W. Hudson he investigated the strength of the Blackwell's Island bridge, a statistically indeterminate work, requiring the application of the highest principles of structural design for its solution. This is the second largest and heaviest bridge in the world, and the experience gained in this investigation is one which few engineers are fortunate enough to obtain. Professor Spofford has an office in New York, where he is associated with Mr. Hudson, in a firm of consulting engineers. Professor Spofford was a member of the instructing staff of the Institute from 1896 to 1903. At the Institute he taught bridge design and structures, and he gave the course in foundations during the latter portion of his stay. He was engaged also in surveying

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field work and in the railroad survey. In 1905 he was appointed professor of civil engineering at the Brooklyn Polytechnic Institute. At this time this institution was entering upon a new career under a new president, and he was engaged to reorganize the civil engineering department. This he has done so thoroughly that the standard now existing there is probably excelled by few, if any, institutions in the country. Since going to Brooklyn, he has taught hydraulics and mechanics of materials throughout the four years, and for two years has taught the subjects of public water supply and sewage disposal. From the beginning he has taught a course in foundations, and has taken personal charge of all work in structures and bridge design, the two latter subjects being the strongest feature of the civil engineering course. A notable feature of his work in Brooklyn has been his evening lectures upon structures and his Saturday afternoon exercises in bridge design. These lectures are taken by adults of from twenty to forty years of age who are engaged in active engineering work in and about New York, most of these men being graduates of college and other technical schools, including graduates of the Institute. In connection with his teaching at Brooklyn, Professor Spofford is preparing a very complete work on Structures, which will contain much original matter and be of great practical use, the aim being to prepare a thorough treatment of the fundamental principles and to illustrate these principles by numerous examples; higher types of structures being also treated in a clear and practical way. Professor Spofford is a member of the American Society of Civil Engineers, of the Boston Society of Civil Engineers and of the Brooklyn Engineers' Club. Of the latter he is a director, and for the last year has been chairman of its committee on entertainments. He has been a member of the committee on re-enforced concrete of the National Association of Cement Users, and is a member of the Society for the Promotion of Engineering Education. He is also a member of the Hamilton Club of Brooklyn, the leading social club of that city.

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PROFESSOR SWAIN TO LEAVE

Strength of Civil Engineering Department Largely Due to His Administration

Professor George Fillmore Swain, who has been for many years head of the Department of Civil Engineering at the Institute, has been appointed Professor of Civil Engineering in the Harvard Graduate School of Applied Science, and will enter upon his duties there next fall. Professor Swain was born in San Francisco, March 2, 1857. He graduated from the Massachusetts Institute of Technology with the class of '77. Immediately following his graduation he spent three years at the Royal Engineering School at Berlin, devoting his attention largely to the study of structures, hydraulics and railroads. On his return to this country in 1880 what may be called his first professional work was in the capacity of special agent on the Tenth Census, in investigating the water power employed in manufactories on the Atlantic slope, this work not being completed until 1882. He came to the Institute as Instructor with General Francis A. Walker, Director of the Census, when the latter became President of the Institute in 1881. In 1883 he became Assistant Professor, and in 1887, shortly after the retirement of Professor G. L. Vose, he was promoted to the charge of the Department of Civil Engineering with rank of Professor, and has held that position until now. He was young to be advanced to a post of this importance, but it was early demonstrated that the choice was justified. About this time occurred the failure of the Bussey Bridge, near Forest Hills. Although substantially without practical experience in structural work at that time, Professor Swain's analysis of the causes of the disaster and his evident grasp of the subject produced so favorable an impression that he was selected as the best man available for the position of engineering expert for the Railroad Commission,—an office newly created as a result of the accident. This, apparently, was to him the opportunity which

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comes sooner or later to most competent men. He accepted it, and made good. It is not improbable that the ability he showed in the case of this investigation was an element which influenced his appointment to the charge of the Department of Civil Engineering. His success, both as engineer and as teacher, has far more than justified his selection in both capacities.

As engineer of the Railroad Commission, he has necessarily assumed responsibility for the safety of all the railroad and street railway bridges of the state; and it is worthy of note that he devoted his efforts to securing results rather than to acquiring distinction by alarming the public, as he might have done at the outset.

In 1894 he was appointed by the mayor of Boston one of the three members originally composing the Transit Commission, of which he is now the senior member. The success of the commission has been unusual. The work first intrusted to it was completed promptly and well within the original estimates. It is probable that no similar work has been accomplished elsewhere with so little disturbance of the streets and interference of traffic as has been the case in this work, even in the narrow streets of Boston. The East Boston tunnel, a late part of its work, is also a very fine example of engineering construction. Success in such work depends largely on the selection of the right men to carry it on, and there is little doubt that Professor Swain, the engineer member of the commission, was largely responsible for the securing as chief engineer of the Transit Commission H. A. Carson, M. I. T. '69, who has unusual fertility of resource in difficult sub-surface work.

As an engineer, Professor Swain has been appointed a member of several commissions for the abolition of grade crossings, and has also been consulting or designing engineer for highway bridges and for several important public buildings, besides serving as expert in court cases. He is a member of two foreign engineering societies, the Institution of Civil Engineers of London and the Society of Engineers and Architects of Hanover, Germany. He is a member of a number of engineering and technical societies in this country, the most important being the American Society of Civil Engineers, of which he is now a vice-president. He also served

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this society for a time as chairman of its committee on uniform tests of cement,—a committee which has done very important work in standardizing cement testing in this country. He has been an active member of a similar committee of the Society for Testing Materials.

He was elected president of the Boston Society of Civil Engineers in 1896, and in his presidential address he urged upon engineers the necessity of devoting more attention to securing breadth and culture, both by reading and by closer contact with non-engineering people in clubs and otherwise. He is himself a member of the Commercial Club, a business body, and of the St. Botolph Club, a social club with literary and artistic tendencies. He has recently been appointed a member of the National Conservation Commission, for which his training in hydraulics and his experience on the census especially fit him.

He has made a number of engineering publications. His notes on hydraulics and his notes on structures have been restricted in circulation to his classes. The *Journal* of the Franklin Institute published two contributions by him in 1883,—"Mohr's Graphical Theory of Earth Pressures" and "The Application of Virtual Velocities to the Determination of the Deflection and Stresses of Frames." His paper before the American Society of Civil Engineers in 1887 on "The Calculation of Stresses in Bridges for Actual Concentrated Loads" called special attention to the use of "influence lines." All three of these are important papers, which have been very well received and have had a definite effect upon advanced practice in this country.

As an educator, he has been prominent. He was elected president of the Society for the Promotion of Engineering Education in 1894. His presidential address upon "The Profession of Engineering Teaching" emphasized the importance of the teaching side, and pointed out that, however able as an engineer the professor of engineering may be, he must be first of all a teacher. He has himself always been interested in the teaching side of his work. His effort has been notably to force his students to think. He has been the drill-master in a subject peculiarly adapted to drill; and exact-

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ing, as one must be to secure results. He was trained to habits of thorough work in study by Professor J. B. Henck, who was one of the teachers in the early history of the Institute who had very great influence in fixing the high standards then and now characteristic of its work.

Professor Swain's views of the importance of good teaching have become the views of his department. All of the professors and instructors are interested in teaching as well as in engineering. This has come about in part as the result of his own training of many of them; in part through securing men whose views were consistent with his; in part, by a general welding together of opinions. Under his charge the staff of the department has grown from one professor, one assistant professor, two instructors, and one assistant, to a force of four professors, two associate professors, two instructors and eight assistants. It is an interesting fact that, in selecting new men for teaching in the department, he has invariably selected men who have had the Institute training, except in the case of one or two young assistants, who however were not advanced. There has grown up in this way and now exists a harmonious department, having the same teaching ideas as his own. It goes without saying that the department has become so strong that it will be capable of standing alone when Professor Swain leaves it. It would indeed be a poor tribute to the efficiency of his administration to suggest otherwise.

Among the qualities which have specially contributed to his success as an engineer and a teacher may be mentioned his quickness in thought and action, his power of clear thinking, his skill as a mathematician. Moreover, he has an almost phenomenal capacity for work. He has never spared himself, and the work he has carried would have proved a burden too heavy for many to bear. What wonder, then, that after twenty-nine years of strenuous work he finds it wise to accept a position which will be free from administrative care, and in which the smaller classes will make the demands for instruction less pressing.

Professor Swain takes with him to his new position the best wishes of his Faculty associates and of the large number of his former students who have profited from his teaching.

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RESIGNATION OF PROFESSOR CLIFFORD

An Appreciation of his Work in the Electrical Engineering Department

On January 21, announcement was made that Professor Harry E. Clifford, of the Department of Electrical Engineering, had accepted the position of Professor of Electrical Engineering at the Harvard Graduate School of Applied Science.

It is a striking commentary on the rapid development of the Institute that, on the retirement from its Faculty of a man who is still young, one can say that during his connection with the Massachusetts Institute of Technology it has grown from an institution with an enrolment of six hundred and thirty-seven students and a Faculty of twenty-five members to a great scientific school with one thousand four hundred and sixty-two students who are guided by a faculty of ninety-two professors; that during the same time, four new courses of instruction have been added; that a great awakening to the needs of our students along other than scientific lines has taken place; and that the responsibilities of the Institute to the public have not only become appreciated, but have been made the subject of earnest study by those who love her best. To the later development of the Institute no one has more heartily and unselfishly devoted himself than Professor Clifford, and it is only just that his services should be appreciated and recognized.

Professor Clifford was graduated from the Institute in 1886, at the age of twenty, after taking the then newly established course in Electrical Engineering. He entered at once upon what proved to be his life-work, that of the teacher. Subjects of a mathematical nature possessed a peculiar attraction for him; and during the years which may be called his years of preparation, he had charge of practically all our instruction in Mathematical Physics, giving courses in Mechanics, Acoustics, Astronomy, Precision of Measurements, Theory of Potential, Theoretical Optics, Wave Theory,

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Calculus, Photometry, Theoretical Electricity, and Heat,—the latter to the entire third-year class. During this period he also studied at Harvard University Advanced Mathematics, Mathematical Physics, Music and Fine Arts, and served as assistant at the Harvard College observatory. To the formal studies must be added the advantages derived from observation during extensive travel both in this country and in Europe. Thus was laid that store of scientific and general knowledge that has so vitalized the teaching of later years, and imparted a remarkable perspective to all his courses.

Professor Clifford's specialized teaching may be said to have begun in 1891, at which time he first gave courses in Periodic Currents. From that time to the present there has been steady progress, more than keeping pace with the increasing industrial applications of alternating currents, his courses in Alternating Current Machinery becoming the very keystone of the instruction in electrical engineering. Not the least remarkable feature of these courses has been the demonstration of an extraordinary ability to deal with large classes in abstruse subjects.

In 1901 the course in electrical engineering was made a separate department of the Institute; and circumstances rendered it necessary for Professor Clifford to assume the executive work of the new department from its very beginning. In 1904 he was made acting head of the department and Professor of Theoretical and Applied Electricity.

It was in directing the Electrical Engineering Department and in his participation in outside but related activities, that Professor Clifford made his greatest contribution to the Institute. To this work he brought abounding enthusiasm, high ideals of the function of the teacher, definite ideas as to the manner in which that function should be exercised and a personality which united both instructing staff and students in an unusual degree.

During Professor Clifford's administration the departmental policy was determined by conferences, and in these conferences no one hesitated to express his mind when it appeared to him that the welfare of the department or of the Institute was at stake.

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The result, was, as might have been expected, a staff closely knit together by sympathy and common ideals and filled with enthusiasm and large plans for the future, the members of which carried to their class-rooms that confidence in the department and the Institute without which no teaching, however laboriously performed, can accomplish its full purpose.

The order of development decided on was: first, to adjust the internal arrangements of the department and to bring them to the highest possible efficiency; second, to adjust the relations with other departments of the Institute in like manner; third, to develop graduate work and investigation; fourth, to take up the larger relations of electrical engineering education to the industrial public. The internal development of the department presented many problems of interest and of great educational importance. That first attacked was the matter of laboratory instruction. Of all instruments of education, an engineering laboratory is perhaps the one most likely to yield permanent results of a value so small that they are entirely incommensurate with the expense of maintenance and expenditure of students' time. In these days of large classes this is much truer than formerly, for the tendency toward routine both on the part of students and the instructing staff is, in these days of crowded curriculums, only overcome by the greatest effort; and it frequently happens that an engineering laboratory course which should be one of the most effective methods of instruction becomes one of the least. Again, there is frequently a lack of correlation between the laboratory and lecture work, which results in a great loss of educational efficiency. A clear perception of these dangers led to the establishment of the present laboratory scheme of the Department of Electrical Engineering. Briefly stated, it is this: Before going into the laboratory, each student is required to write a preliminary report on the subject-matter of his experimental work. These reports are written in the class-room, and are carefully criticised before the student is allowed to go into the laboratory. Each student must personally consult the professor in charge with respect to any errors in his preliminary report before performing the experiment. This brings every student into close personal

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contact with the teaching staff. The experiments assigned are of an educational nature, illustrating the points of fundamental importance previously taken up in the lecture-room. Thus close correlation of lecture and laboratory work becomes one of the chief characteristics of this method of instruction. This matter is insisted upon as of fundamental importance. This really great advance in laboratory methods would have been impossible of accomplishment but for the self-sacrificing devotion of Professor R. R. Lawrence, who at the beginning took entire charge of the execution of this plan, which has given the Institute the most effective system of electrical engineering laboratory instruction in the country.

Himself an expert as a lecturer, Professor Clifford long ago appreciated the weakness of the purely lecture system of instruction which arises from lack of intimate acquaintance with the individual needs of students. Consequently, class-room instruction was substituted for lectures wherever it was possible. Where this could not be done, recitations supplementary to the lectures were introduced. Professor Clifford assumed his full share of the quiz work; and in this his power to vivify the intellectual life of young men became especially apparent. He was sympathetic when sympathy was needed, and, though he did not hesitate to administer a jolt where it would be effective, yet no man ever came from his class-room with lowered self-respect, but rather with renewed ambition.

As a supplement to lecture work, problems hold a time-honored position, but such work often degenerates into a mere substitution in formulæ, and becomes practically useless. To correct this tendency and put the problem work on a truly educational basis, Mr. C. A. Porter addressed himself, and it is due to his earnest efforts that we now have this work established in so satisfactory a manner. In the beginning there were groans and complaints from the students: they could not get the answers by substituting in a formula, and no two problems were alike; and the course was said to be too hard. However, it gradually dawned on them that they were acquiring a power of analysis to which they had before been strangers, and that facility in the mathematics of engineering could only be attained by practice, and many graduates have not hesitated to

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ascribe to this part of their course great weight. The problem work brought the person in charge into such intimate relations with the students that what amounted to a tutorial system was established, and an immense amount of personal instruction adapted to the individual needs of the particular students was given.

In all courses of study where the curriculum is crowded, there is a tendency for the students to focus their attention on the narrow field of the particular studies of the moment, and, to counteract this tendency, classes were formed for the discussion of current engineering literature. Professor Clifford took charge of this work, which, on account of his wide range of knowledge and practical experience, proved to be most stimulating. With the same object in view, systematic excursions to various interesting electrical installations were arranged as a part of the assigned work.

Having a horror of that kind of instruction which merely concerns itself with the cramming of students' minds with a mass of unrelated facts and changing details which are new today and obsolete tomorrow, or that which results in the mere acquirement of manual dexterity, Professor Clifford impressed upon every member of the department that the idea underlying its policy was the development in the student of the power of analysis,—not in its narrow, mathematical sense, but in its broadest aspects. And he insisted that the instruction should be basic, devoting itself to the fundamentals which lie at the root of the profession of electrical engineering, believing that to subsequent experience should be left the acquirement of that practical knowledge which is the stock in trade of every engineer. In short, the object of the course was to turn out men fitted to become engineers, not to turn out engineers. And in this the course differed materially from that pursued in many institutions. Taking this idea as a basis, all members of the department had much at heart a simplification of the curriculum and the working out of a course with the proper perspective, with just weights assigned to all the related branches of engineering, and much progress has been made in that direction.

To one with Professor Clifford's broad views of what an engineer-

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ing education should be, it is not surprising that he devoted himself with enthusiasm to the development of graduate work, especially in the field of Power Transmission and Advanced Theory of Alternating Currents. The lectures in these courses were most stimulating, the deductions often being in advance of current practice, and frequently the difficulties which would be encountered in the practical working out of proposed schemes would be clearly noted. The development at the Institute of a strong post-graduate course in electrical engineering, which would attract the best graduates of the best technical schools in the country and give them the most advanced instruction obtainable in any school on this side of the water, was one of Professor Clifford's dearest projects. To the development of this work he looked forward with the eager desire of an enthusiast. Appreciating that fruitful investigation requires thorough preparation and an intimate knowledge of the nature of the problems arising in electrical industries, plans for this class of work were broadly conceived, the foundation being laid in thorough advanced instruction to be taken not only by the graduate students, but by the younger members of the instructing staff, that they might develop to meet their new duties in superintending investigations.

The keen appreciation of the fact that the Institute exists to serve the public, and that to do this effectively requires a close connection with those responsible for great engineering developments, led to the organization of an advisory committee, the members of which are men of national reputation. That they consented to serve is a striking testimony to the interest of men of large affairs in educational questions. This committee differs from the visiting committees connected with other institutions, in that many of its members have no other Institute connection.

The foregoing detailed consideration will show why Professor Clifford's administration was so rich in results to our students in electrical engineering.

There were numerous activities in which he was engaged outside of the Institute, which contributed their part and reacted for the advantage of the student body. These activities resulted in a wide acquaintance with men of science and affairs throughout the coun-

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try, Professor Clifford being a member of the American Institute of Electrical Engineers, serving on the Board of Managers and Past Chairman of the Boston Branch; a member of the Illuminating Engineering Society, the National Electric Light Association, the Society for the Promotion of Engineering Education; a Fellow of the American Academy of Arts and Sciences and of the American Association for the Advancement of Science; a member also of the Circolo Mathematica di Palermo. The New York University Club and the Brae-Burn Country Club also include his name in their lists of members. To the acquaintance brought about by the membership and participation in the activities of these professional and social societies, must be added that which naturally arises from the practice of the engineering profession, for Professor Clifford has done much work of a consulting character. He has been referee in many engineering disputes of magnitude, has been entrusted with the scientific preparation of patent cases of importance, has done development work for several companies, and has been, and is now, retained by a number of companies of standing.

The professionalism of the old-time teacher never has laid its heavy hand on Professor Clifford, and many a young man can and does say that his first serious efforts toward ultimate success date from one of those intimate and personal conferences which resulted from his presentation of the difficulties which beset him, both within the Institute and without it. Some were encouraged and some admonished, as was needful, and many a man sorely pressed financially has been put in touch with those whose pleasure it is to assist at such a crisis in a young man's career. These things, entirely outside the so-called necessary duties of the teacher, account in great measure for the tremendous personal hold which he has had on his students. Always presenting the highest ideals of what an engineer should be, both in his profession and in his attitude toward the public, hating shams of all sorts, and insisting on the fundamental things, Professor Clifford's view of what a scientific education should accomplish cannot be better summarized than in the epigram quoted by Professor Palmer,—"That's what education means, to be able to do what you have never done before."

F. A. Laws, '89.

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TESTS OF CONCRETE BEAMS

How the Laboratory of Applied Mechanics is contributing to the Knowledge of the Engineer

The Mechanical Engineering Department is carrying on an investigation of the breaking strength and methods of failure of re-enforced concrete beams of unusual proportions. The form of beam which has been most frequently tested and regarding which the most information has been obtained in the past is what may be called the typical floor beam as it is used in the ordinary type of re-enforced concrete building. The usual span of such a beam is about sixteen feet, and its depth from eighteen to twenty inches. In engineering structures, however, the loads are often so great that it becomes necessary to use beams and girders of less than half the above length and twice their depth. With such proportions, engineers know very little about the nature of the stresses in re-enforced concrete, and there is considerable doubt as to whether the beam acts like the ordinary type in deflecting or whether it supports its load in the manner that an arch does. A set of twelve specimens, thirty inches deep and varying in length from six to twelve feet, and a like set of just half the linear dimensions, have been presented to the department by the Ambursen Hydraulic Company. These are now being tested by students, under the direction of the instructing staff, as thesis work; and it is expected that the results will be valuable, not only for themselves, but as showing the relative merits of small and large sized test specimens.

The Laboratories of Applied Mechanics at the Institute are especially well equipped for the testing of all forms of concrete specimens. They contain machines capable of breaking columns up to one foot square by crushing, two beam machines, the larger of which applies and measures loads up to one hundred thousand pounds, and a four hundred thousand pound arch-testing machine of special design, which is at present being used for beam tests.

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The work of the department in concrete testing extends over a period of seven years, during which time there has always been some series of tests in progress.

One of the most interesting of the series was that in which re-enforced concrete columns were subjected to fire conditions, the entire column being treated to a high temperature under load and then one side of it suddenly cooled by the application of a stream of water. The beam tests, too, are not only valuable for the engineering data they afford, but are highly interesting to the layman. The neutral axis, or unstressed longitudinal section, of a re-enforced concrete beam under load is impossible, apparently, of theoretical determination, and experimental data are necessary for the successful use of these beams in structures. To obtain accurate and useful data of this kind, many tests must be made, and measurements of the most delicate character taken. The work includes, for instance, the measurement of the strain, elongation or compression of the beam at five or six points from top to bottom, when the load is applied, and at regular intervals for some time thereafter. All tests made in the department are, of course, carefully tabulated, and many of the standard figures for the strength of materials which engineers use throughout the country were determined in this laboratory.

A Grant for Research

The Carnegie Institution of Washington has made a grant of $3,000 to Dr. Arthur A. Noyes, Acting President of the Massachusetts Institute of Technology, to be used in promoting research on the properties of solutions in relation to the ionic theory, which is being carried on in the research laboratory of physical chemistry at the Institute.

This is the sixth grant which has been extended to Dr. Noyes for this work, but is larger than in the previous years.

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TECHNOLOGY WINS THE PRIX DE ROME

E. I. Williams ('08) was the winner, in January, of the Scholarship in Architecture of the Academy in Rome. The prize is the highest in value and in honor offered to American architectural students. Technology was in competition with Harvard, Columbia, Pennsylvania, George Washington University at Washington, Cornell, University of California, Washington University and University of Illinois. The winning of the Prize of Rome from such competitors means far more to Technology than the simple honor conveyed. It means an achievement due to our school methods and training, for Williams' practical experience was limited to three summer vacations spent in an architect's office.

Williams was born at Rutherford, N.J., Oct. 5, 1884, where he attended school till his thirteenth year. He then went to Europe to the Château de Lancy School, near Geneva, and remained there nearly twelve months. Afterwards he lived in Paris, and attended the Petit Lycée Condorcet for six months more. He then returned to the United States, and attended the Horace Mann High School in New York city for three years, after which he entered the office of H. S. Goss, mechanical engineer, and worked there two years and a half as draughtsman and patent office man. He then came to Tech, undecided what course to take up, but expecting to study architecture rather than mechanical engineering, which had at first appealed to him. It needed but a short time to decide in favor of architecture, in which success came to him from the start.

Williams is now completing his graduate year at Technology before departing for Rome. He has fairly won this great prize. His undergraduate record at Technology tells of all-round ability, thoroughly cultivated. A first-rate scholar, he was also a prominent member of his class, serving on both baseball and football teams and on other minor organizations. He was president of the Architectural Society of the Institute during his senior year,

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and was a general favorite. All good wishes will go with him, and the Academy in Rome may well be congratulated on its happy choice, and the Institute may rejoice on being represented by one who is sure to reflect great credit on the school.

LECTURES BY MONSIEUR BERTIN

For a considerable time a system of lectures has been arranged each year by the department of naval architecture to enable students to hear and become acquainted with the leaders of their profession. This arrangement is made possible by the liberality of a friend of the Institute.

A notable feature this year will be a series of lectures by Monsieur W. E. Bertin, chief constructor (retired) of the French navy, who has kindly consented to undertake the voyage to this country for that purpose.

The course is expected to begin on or about the 12th of April, and will include the following subjects: 1. Les vagues de la mer. 2. Giration du navire-à-vapeur. 3. Stabilité du navire-de-combat après avaries. 4. Les progrès de la navigation du commerce-à-vapeur, en prenant pour example la Cie transatlantique Française.

The French have long been recognized as leaders in the theory of naval architecture and in the practice of shipbuilding, and among them Monsieur Bertin is recognized as the exponent of their ideal combination of scientific attainment and practical ability. He is as well known for his designs for ships, both naval and mercantile, as for his scientific treatises and experimental investigations. The titles of his lectures give some idea of the range of his activities. He has been naval constructor, scientific expert, director of the governmental school for naval constructors and chief constructor. He is an officer of the first class of the Legion of Honor, a member of the Association Technique Maritime, of the Institution of Naval Architects and of the Society of Naval Architects and Marine Engineers.

C. H. PEABODY.

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THE SOCIETY OF ARTS

With the lecture on April 5 by George E. Hale ('90), director of the Mount Wilson Solar Observatory at Pasadena, Cal., on "Solar Cyclones and Magnetic Fields," the season of the Society of Arts will come to a successful close.

During the winter it has offered to its members and to the Boston public a series of addresses on a wide range of scientific subjects; and, although presented by specialists, they have appealed to the layman as well as to the expert.

Since mention was made of the Society of Arts in the January REVIEW, Dr. William H. Walker, director of the Laboratory of Applied Chemistry of the Institute, gave an address on "The Corrosion of Iron and Methods of Preventing it." Dr. Walker's paper was a remarkable one, and has stirred up a great amount of interest all over the country.

On January 28 a large audience assembled in Huntington Hall to hear Dr. Steinmetz talk on "The Future of Electricity." The birth of Charles Darwin was marked by a meeting of this society, at which Professor Sedgwick, of the Biological Department, and Professor Percival Lowell, non-resident Professor of Astronomy at the Institute, discussed the influence of Darwinism in clearing the way for an acceptance of the proper aspects of evolution. Huntington Hall was nearly filled with a very enthusiastic and appreciative audience.

On January 21 Professor Jaggar delivered a lecture on the Messina earthquake, which was widely reported and excited much interest all over the country.

Lectures were given by Dr. Charles E. Lucke, of Columbia University, on "Gas Power," Mr. H. C. DuBois, of Philadelphia, on "The Salting of Mines," and Professor Robert S. Woodward, president of the Carnegie Institution, on "The Larger Research Problems of the Carnegie Institution."

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AMONG THE UNDERGRADUATES

The General Advancement of Student Social and Athletic Interests—Junior Week will be one of Gayety

The most important advancement in undergraduate affairs to be noticed since the last issue of the REVIEW centres in the Institute Committee, which has made certain changes in the point system, and installed a book-keeper and stenographer at the office in the Union, where all the clerical work for the various activities is now done. In another column, members of the Institute Committee have described the working out of these two matters in some detail.

The students are now preparing for Junior Week, which begins April 19. The most important feature is the Show, which will be given at the Hollis Street Theatre, in Boston, Tuesday and Thursday afternoons. The Show will also exhibit at Northampton, where it made a great success last year, and it is also hoped that arrangements will be made to go to Providence this season, making two trips out of town. The play this year is entitled "That Pill Grim," and it is said to be the best book that has ever been offered. The scene is laid in Holland and America, thus giving an opportunity for many ludicrous situations and bright local hits. The lyrics of the Show are excellent, and it is expected that the Tech Song Book will get some valuable acquisitions from this year's effort.

The 1910 *Technique* will be published on April 17. This is the twenty-fourth edition of the *Technique*, the enterprise having been started by the class of '87. The Technique Board consists of sixteen members of the junior class elected by an electoral committee of twenty-five. On the day the book is published, April 17, will occur the Technique rush, which is unique and attracts large crowds of spectators each year. The first hundred copies of the book are taken to a shanty which is erected on the tennis courts back of the Art Museum, the first twenty-five copies being num-

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bered on the cover and signed by President Noyes. The rush takes place at 12.15, and five or ten minutes before that time the men begin to struggle for a good position near the shanty. At ten minutes past twelve a gun is fired, another at fourteen minutes past, and the final gun at exactly quarter past, when a small door near the top of the shanty is opened and the first hand that is put in receives book number one. The books are handed out in the order of the numbers, the first five being free to those who secure them. The *Technique* this year is said to be fully up to its predecessors, which have the reputation of standing at the head of college annuals. It is looked for eagerly by the professors as well as the students. Price of the book is $2. All alumni who desire copies can have them sent by express for $2.40, prepaid.

Junior Prom, Technology's most important social event, has been completely arranged, and will take place on Wednesday evening, April 21, at the Hotel Somerset. This is an event to which all Tech men look forward with a great deal of interest, and every effort is being made by the committee in charge to have this year's Prom eclipse all others. The support that has been forthcoming from the student body would warrant a whirlwind success. The matrons will be Mrs. Curtis Guild, Mrs. Eben S. Draper, Mrs. Samuel J. Mixter, Mrs. Richard C. Maclaurin. The patronesses will be Mrs. William T. Sedgwick, Mrs. Frank H. Rand, Mrs. Alfred E. Burton, Mrs. George F. Swain, Mrs. Dugald C. Jackson, Mrs. Henry P. Talbot, Mrs. Desiré Despradelle, Mrs. Harry E. Clifford, Mrs. Chauncy C. Batchelor, Mrs. Davis R. Dewey.

Elsewhere in the REVIEW is an article showing Technology's status in intercollegiate athletic sports, which will be read with interest. Up to the time of examinations every Institute team was practically unbeaten, and the New York *Sun* said: "The Massachusetts Institute of Technology is one of the leading institutions of the country in minor sports, apparently. In cross-country running, hockey and basket-ball, M. I. T. is as good as the best. Beating Harvard, Dartmouth and Williams is a good record for the basket-ball men thus far this season." The Athletic Association now proposes to incorporate the different sports under one head and

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issue season tickets admitting the holder to all games and meets. The money obtained from the sale of these tickets will be apportioned to the various activities according to their importance and financial requirements.

There has been but one convocation during the last three months. On February 11 Mr. Horace White, formerly editor-in-chief of the New York *Evening Post*, spoke to the students in Huntington Hall on his personal recollections of Abraham Lincoln, with whom he was associated for many years.

Among the speakers whom the undergraduate committee has obtained for the Friday night talks at the Union, and to whom an average crowd of 150 fellows has listened with interest, have been Mr. James O. Fagan, Lieutenant W. B. Tardy, U.S.N., Seth K. Humphrey, Louis Brandeis and the Rev. Dr. Charles Fleischer. These meetings will be continued until the middle of May, when the annual examination period begins.

The Tech has been somewhat handicapped by necessary changing about of editors, but it has been very creditably conducted, and prints the news without fear or favor. Those of our readers who would like to be in close touch with the Institute every day will find *The Tech* a cheerful visitor to the reading table. Subscription can be begun at any time, and the important events of the year are now just approaching.

Reunion Song Leaflets

The Reunion Committee has had the words and music of several Tech songs to be sung at the Reunion printed in pamphlet form for use of classes and alumni associations who desire to practise them.

A great deal of attention will be given to the practice of singing preparatory to the Reunion. Most of the younger classes get together once a month for this purpose, and it is proposed to have a general convocation of alumni at Huntington Hall to practice Reunion songs.

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ALUMNI HERE AND THERE

Plans for Reunion Uppermost—Enthusiasm is increasing Everywhere—Two More Alumni Associations—New York Club House

Since the January REVIEW was published two new local Alumni Associations have been recorded, one at Milwaukee, Wis., and the other at Detroit, Mich. Everywhere there is great enthusiasm over the Reunion. Men are coming to Boston who have not been there for years. This increased interest is helping the local associations, and should be fully taken advantage of by good work on the part of the officers.

WASHINGTON SOCIETY OF THE M. I. T.—At the annual meeting of the Washington Society at the University Club, January 12, the following officers were elected: Marshall A. Leighton, president; F. F. Longly, vice-president; A. M. Holcombe, secretary, 1404 Massachusetts Avenue, N. W.; G. R. Jones, treasurer; F. C. Willard, member of the executive committee.

The annual dinner of the society was held February 18, at Rauscher's Restaurant, in honor of Dr. Richard C. Maclaurin, president of the Institute. Mr. Marshall O. Leighton ('96) presided, and the invited guests, in addition to Dr. Maclaurin, were Hon. Elmer E. Brown, United States Commissioner of Education; Rev. Joseph Himmel, president of Georgetown University; Hon. Tulio Larrinaga, resident Commissioner from Porto Rico; Dr. Charles W. Needham, president of George Washington University; Dr. Robert S. Woodward, president of the Carnegie Institution of Washington; and Mr. I. W. Litchfield, editor of THE TECHNOLOGY REVIEW. The attendance was the largest in the history of the society, there being sixty-seven present.

The banquet hall was hung with Tech banners, large and small, and red carnations adorned the tables. The dinner was enlivened

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by songs between the courses, the favorite with both old and young alumni being "Dear Old M. I. T." from the song leaflet published for the June Reunion, a copy of which was at every place. Dr. Maclaurin was greeted with a rousing M. I. T. cheer and "Long live the President" sung standing, and, judging by the earnest attention with which his ideas as to the future of the Institute were received, and the hearty applause following his appeal to the alumni for financial support to insure its continued independence, he will find the Washington Society with him in any move he may make for a bigger and better Tech.—*A. M. Holcombe, Secretary.*

THE TECHNOLOGY CLUB OF PHILADELPHIA.—The annual business meeting and election of officers of the Technology Club of Philadelphia took place on January 23 at the new Y. M. C. A. Building. The following officers were elected for 1909: president, James Swan ('91); vice-president, Frank H. Keisker ('97); secretary-treasurer, Percy E. Tillson ('06), 419 Y. M. C. A. Building; executive committee, Frederick A. Hunnewell ('97), Edgar P. Trask ('99), Eugene S. Foljambe ('01), George M. Spear ('02), Ernest Harrah ('04), H. Le Roy Walker ('05).

An informal dinner was served before the meeting. Mr. Andrew Wright Crawford ('96), secretary of the City Park Association, presented a very interesting paper on "Parks and Park Systems." He urged that engineers and architects should take an active interest in the subject of parks because of the very close relation between park systems and the general city plan. He showed that a good park system should conform with the general arrangement of the city, and illustrated his points by the good and the bad examples offered by different American and European cities.

An informal dinner was held on Saturday evening, February 27, at the City Club. Mr. Arthur W. Ayer ('90), of Harrison Brothers & Co., spoke on "The Problems of the Paint Manufacturer." He explained some of the methods now employed in testing the wearing qualities and action of paints, and he spoke particularly of the studies that are being made in regard to the composition and uses of paint in preventing the corrosion of structural iron and steel.—*Percy E. Tillson, Secretary.*

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TECHNOLOGY CLUB, BOSTON.—The first "Ladies' Night" of the season was held on December 22, when Mr. William Lyman Underwood told of his experiences in "Hunting Big Game in New Brunswick with Canoe and Camera." Mr. Underwood spoke in his usual delightful style, and showed a number of beautiful and remarkable photographs of wild animals. Since that time three "smoke talks" have been given. On January 22 Professor Henry E. Crampton, of Columbia, gave a most interesting account of his travels in Tahiti and the Society Islands. On the 9th of February Professor A. Lawrence Rotch talked on "Aërial Navigation," and illustrated the development of the methods of aërial travel from the time of the Montgolfiers first balloon up to the present airship of Zeppelin and the aëroplanes of the Wright brothers. The seventh talk of the season was on March 2, when Professor D. W. Johnson, of Harvard, spoke entertainingly of a wagon trip through parts of New Mexico, Utah and Arizona, touching on his experiences in the deserts, the petrified forests, and in and about the Grand Canyon.

Two new bookcases have been placed in the common room, and the librarian hopes gradually to increase the club's library.—*Robert S. Williams, Secretary*, 83 Newbury Street.

TECHNOLOGY CLUB OF THE MERRIMACK VALLEY.—The annual meeting and dinner was held at the Franklin House, Lawrence, Mass., on Monday evening, February 8. The following officers were elected for 1909: president, R. A. Hale ('77), Lawrence; vice-president, C. H. Eames ('97), Lowell; secretary, J. A. Collins, Jr. ('97), Lawrence; treasurer, W. O. Hildreth ('87), Lowell; member executive committee, P. R. French ('00), Lawrence; delegate to the Alumni Council, George Bowers ('75), Lowell.

Dinner was served at 7.30 P.M., after which Professor Burton, Dean of the Institute, talked on "Recent Changes in Student Life." The subject was a very interesting one, as most of the men present were unfamiliar with the new relations between the Dean and the student body.

Twenty-six members were present, as follows: Hale ('77), Ripley ('00), French ('00), Hobson ('06), Coey ('06), White, Keables, Bowers, Miller ('09), Barker ('96), Simpson ('90), Carney ('93),

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Eames, Collins ('97), Hildreth ('85), Hildreth ('87), Sjöstrom ('88), Wright ('86), Adams ('91), Adams ('06), Scott ('01), Walker ('06), Chase ('74), Bowers ('75), Alter ('11), Enhler ('05).—*J. A. Collins, Jr., Secretary.*

NORTH-WESTERN ASSOCIATION OF THE M. I. T.—The last meeting that the association will ever hold in the banquet hall of the old University Club goes into the history of the association as one of the most successful ever recorded. It was not, perhaps, the largest dinner that the association has ever held, but its members exhibited more practical interest in the problems relating to the Institute than was ever shown before, and, having passed through a period of stress of its own account, it goes forward with old-time enthusiasm and a deeper determination to be a large factor in the advance of old Technology.

The dinner of February 20 was full of life, incidental divertisements, and good fellowship, and we gave our President-elect, Dr. Maclaurin, who was our guest, a most hearty welcome. The other guests were Professor Sedgwick, whom we have not had the pleasure of hearing in Chicago before, and I. W. Litchfield, of THE TECHNOLOGY REVIEW. There were nearly one hundred men present, including delegates from Minneapolis, Milwaukee and various points in Iowa, Indiana and Illinois.

The banquet hall at the University Club, which was decorated with smilax and flowers, never presented a more attractive appearance. A large electric sign about twelve feet long, spelling "Maclaurin" in electric lamps, was fixed to the front of the gallery, directly in front of the speakers' table. When the men entered the dining-hall, before sitting down they gave a long cheer for the President-elect as his name flashed out. Johnny Hand's orchestra, with Johnny himself to lead it, was located on the floor between the two wings of the table, while the official noise committee on one side vied with a self-appointed noise committee on the other in rendering Tech songs and parodies on popular songs which referred to the personal characteristics of certain gentlemen present.

John Shortall ('87), president of the association, presided at the

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dinner, and introduced in succession Dr. Maclaurin, Professor Sedgwick, Theodore Robinson ('84) and I. W. Litchfield ('85), of Boston. Dr. Maclaurin made a most excellent impression on the men. His speech indicated the extent to which he has studied the history and traditions of the Institute, as well as his knowledge of educational institutions and methods throughout the world. He declared for a continuation of the policies to which Technology had so successfully stood, and for improvement in the facilities for teaching laboratory work and research. His mention of a necessity for new buildings on a new site brought forth approval of applause from every man present.

Professor Sedgwick received an ovation from the men when he arose to speak. He presented Technology as it stands among other educational institutions and told us of the wonderful spirit of co-operation that pervades the Faculty. He also told us that the most important problem before Dr. Maclaurin was the acquisition of the right kind of men to be professors and teachers at the Institute. He outlined how the alumni could help directly in this and other ways.

Mr. Litchfield spoke more especially on the improved conditions of social life at the Institute and the Technology Reunion which is to come in June.

The North-western Association talks of filling a train with men from Chicago and near-by cities, and the Reunion committee can rest assured that Chicago will do the proper thing.

The new officers of the association are: Edward M. Hagar ('93), president; Richard E. Schmidt ('87), vice-president; Ernest Woodyatt ('97), 1615 Ashland Block, Chicago, secretary-treasurer; Frederick K. Copeland ('76), Meyer J. Sturm ('96), George H. Lukes ('92), Philip W. Moore ('01), executive committee.—*Ernest Woodyatt, Secretary.*

TECHNOLOGY CLUB OF BUFFALO.—On January 26 we had a most interesting meeting at the University Club, with sixteen members present. W. H. Watkins ('95), manager of the dyeing department of Schoellkopf, Hartford, Hanna Company, gave us a

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highly instructive talk on "Dyeing and Dyestuffs." The subject was fully discussed by those present.

The approaching Technology Reunion was talked over fully, and the club has decided to make arrangements to attend in a body.

Our next meeting will be held at the University Club on March 24, when we expect to hear a paper on "By-product Coke."—*H. A. Boyd Secretary, Erie County Bank Building.*

TECHNOLOGY CLUB OF DETROIT.—The winter meeting of the Detroit Technology alumni was held at the University Club on the night of February 22. Thirty-one Tech men were present, besides the three guests. Mr. Julian Harris, the vice-president of the University Club, in a very happy manner welcomed the Tech men in behalf of the University Club. Mr. Alexis C. Angell in behalf of the University of Michigan welcomed Dr. Maclaurin. Dr. Maclaurin was introduced by Prof. George W. Patterson ('87). Dr. Maclaurin made a most pleasing address and most favorable impression. Mr. Whitney acted as toastmaster, and Mr. Kales led the cheering, which was very enthusiastic. Mr. Donald presided at the piano.

As this was our first attempt at singing, the results were very satisfactory, and everybody entered in with a great deal of spirit. Through the Reunion committee we were furnished with leaflets with some of the Technology songs, which added much to the pleasure of the evening.

This was our second meeting, the first having been held in the summer at Lake St. Clair.

The following men were present at the winter meeting: W. R. Strickland ('98), Professor Emil Lorch ('93), Professor G. W. Patterson ('87), Mark W. Allen ('97), G. R. Anthony ('98), Frank C. Baldwin ('90), William M. Corse ('99), George Cook, W. R. Burroughs ('08), F. H. McGuigan ('08), J. H. Dennedy ('08), Harry W. Donald ('05), Herbert J. Lord ('98), Walter M. Newkirk ('92), Oliver M. Davis ('01), Charles F. Hammond ('91), H. E. Hathaway ('91), William R. Kales ('92), Herbert G. King ('75), Currier Lang ('04), Ralph D. Morris ('03), George Valentine Pottle ('01), W. C. Reed Hill ('94), Waldemar S. Richmond ('05),

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George H. Ropes ('94), A. Forrest Shattuck ('91), Edward A. Sumner ('97), Warren C. Taylor ('02), Granger Whitney ('87), H. T. Winchester ('03), Maurice Black ('96).

The Detroit association was formed in August last, and is governed by an executive committee consisting of Currier Lang ('04), Herbert J. Lord ('98), William R. Kales ('92), Marvine Gorham (93) and Granger Whitney ('87). We should like to get in touch with the Tech men in Toledo and vicinity.—*Granger Whitney, Secretary.*

INLAND EMPIRE ASSOCIATION OF THE M. I. T.—We were to have held our annual meeting on January 22, but about three days before that date there came an early thaw, which resulted in such unusual floods and wash-outs that travelling was difficult or impossible for some time. The meeting was therefore postponed.

On February 18 we called a meeting to meet Professor Roberts ('90), who was until last June at the head of the Civil Engineering Department of the Washington State College, Pullman, Wash. Professor Roberts is now in charge of the water-works installation for the town of Medford, Ore. The dinner was made memorable by the fact that we had with us our only co-ed in this part of the country, Miss Greta Gray. The annual election resulted in the selection of the following officers: Shirley S. Philbrick ('98), president; William J. Roberts ('91), vice-president; Philip F. Kennedy ('07), secretary, 1129 Hamilton Street, Spokane, Wash.; Francis F. Emery ('81), J. F. Green ('08), E. R. Crane ('04), executive committee.

It was voted that the president and the secretary should form a committee to extend the congratulations of the association to President-elect Maclaurin.

The matter of the Reunion was talked over, and, although we are a long distance from the Hub some of us have already made arrangements to be in Boston, June 7.—*Philip F. Kennedy, Secretary.*

TECHNOLOGY ASSOCIATION OF NORTHERN CALIFORNIA.—On February 3 the above association had an informal and very social evening at the Bismarck Café. Of the twenty-two present,

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four were with us for the first time and each of them in their little talks told how glad they were to be there. Mr. Wilson ('90), gave a most interesting talk, and ended up by inviting the association as a body to go out in his yacht. Nearly every one present gave short talks on different men who had, and in many cases were, still moulding and making Alma Mater what she is today. With the exception of letters from President Maclaurin, Dean Burton, the REVIEW, Mr. Humphreys and some clippings that were read by President Hyde and the secretary, the trend of the conversation of the entire evening was in appreciation of the many true Tech men.

During the evening there were many songs and cheers, and every one was very enthusiastic. As place cards at the table, each received a booklet containing the list of members and their addresses. With the singing of "Dear Old M. I. T." the party broke up. It was declared the finest yet.

Those present were: Hyde ('96), Merrill ('05), Philbrick ('02), A. J. Krafft ('07), E. J. Krafft ('07), Fraser ('05), Leland ('91), Spencer ('06), Bowie ('96), Carr ('06), Dyer ('06), Loring ('99), McKebben ('07), Ferry ('03), Hileman ('09), Smith ('04), Atkins ('04), Pearse ('01), Wilson ('90), Kriegsman ('05), Meade ('99), Blake ('06).

Our next meeting was at the Hotel Manx, where we have established a Tech luncheon every Monday between twelve and one o'clock. At these lunches we are able to meet for a short time, and the spirit of good fellowship cements the ties of Tech friendship more firmly.

We have to date had three such lunches, averaging eleven members, and later on we expect a gathering of at least twenty weekly.

On March 4 the association had a Bohemian evening at one of San Francisco's Mexican restaurants. The surroundings and the dinner were entirely Mexican, and with the exception of talks by the president and secretary on the coming Reunion and a word of parting to one of our strongest and most earnest Tech men, Langdon Pearse ('01), the evening was spent in jollification and in surmising what we were eating. Hearty welcomes were extended to a new-comer, J. Ross Wade ('94), to E. M. Chadbourne ('03), who

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had just returned from the east, to Mr. Stebbins ('93), Mr. Walker ('06), and Mr. Foss ('08), all new-comers. Mr. Foote ('99), received a very hearty welcome, as he had a long trip to make from Grass Valley to San Francisco. All of the above responded with short talks, and at the close of the dinner, which was one of our largest, thirty being present, every one declared it a great success.

Those present were: Hyde ('96), Walker ('06), Merrill ('05), Leland ('91), Philbrick ('02), Willard ('76), Devlin ('05), Spencer ('06), Bowie ('96), Carr ('06), J. Ross Wade ('94), Foss ('07), A. J. Krafft ('07), E. Stebbins ('93), Lichtenstein ('06), Eaton ('05), Atkins ('04), Hersam ('91), Clarke ('06), Mahen ('87), Chadbourne ('97), Wilson ('90), E. J. Krafft ('07), Kriegsman ('05), Hileman ('09), Fraser ('05), Nickerson ('04), Foote ('99), Dyer ('06), Blake ('06).

Our next meeting will be a ladies' theatre party at the Van Ness Theatre, San Francisco, April 6, 1909.—*H. C. Blake, Secretary.*

THE PITTSBURG ASSOCIATION OF THE M. I. T.—Since the last issue of the REVIEW the Pittsburg alumni association of the Massachusetts Institute of Technology has certainly been in the lime-light.

Something has happened in Pittsburg. We have come to realize that our latent forces have been too long dormant, and have now been rejuvenated by the event of an annual dinner, unprecedented in glory in the history of this association. Our special attractions at this dinner, which occurred at the University Club on February 19, were interesting.

We had the extreme pleasure of having with us Dr. Maclaurin, our President-elect, who by his delightful personality and charming manner endeared himself to the loyal heart of every Tech man in the Pittsburg district. Our second guest was Dr. William T. Sedgwick, our dearly beloved and faithful member of the Faculty, who told us what Tech is, what Tech ought to be and what Tech will be. Our third guest, last, but not least, was our loyal alumnus, Isaac W. Litchfield ('85), managing editor of the REVIEW. He told us about the prospects of THE TECHNOLOGY REVIEW and of our obligations as loyal alumni whose support the Institute needs.

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We had one of the most delightful evenings that has been experienced for some time, and we also had some good things to eat. In fact, our *bill of fare* was fit for the king's table. We ate, drank and were merry. Amidst our festivities our feelings heartily burst forth in the songs of "Dear Old M. I. T.," "Take me back to Tech," "On Rogers Steps," "Retrospection," etc.

There were over seventy loyal sons who attended this affair, and we were glad to note that they represented classes from '75 to '10.

The executive committee has planned for the coming season a series of smokers which will abound in good fellowship and amateur as well as professional fun. We hope these smokers will thoroughly cement the friendship and interest of every member of the society. The dates for same will be published in the near future, and we extend a cordial welcome to all Tech men who may be sojourning in this district.

Our association will place all alumni associations of the Institute on its mailing list, in order to acquaint them with our doings, and trust they will return the courtesy.

Our association suggests that a pamphlet of songs without music be printed, so that the different alumni associations can use them at their meetings. We ourselves can use three hundred copies of such.

We announce the election of Warren I. Bickford ('01), as our representative to the Alumni Council.

The officers for the ensuing year: L. K. Yoder ('95), president; Sumner B. Ely ('92), vice-president; Waldso Turner ('05), secretary-treasurer; C. Snelling Robinson ('84), Henry H. D. Shute ('92), executive committee.—*Waldso Turner, Secretary-Treasurer, 1174 Frick Building Annex, Pittsburg, Pa.*

THE TECHNOLOGY CLUB OF NEW YORK.—The President-elect of the Institute, Dr. Maclaurin, was welcomed by Technology men in New York at the annual dinner of the club at Delmonico's, Saturday evening, Feb. 6, 1909. The dinner was preceded by a reception to Dr. Maclaurin, and the opportunity thus afforded of personally meeting and talking with him was most enjoyable. The president of the club, Professor Charles R. Richards ('85),

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and the former president, Alex. Rice McKim ('86), stood beside Dr. Maclaurin, and they were joined by Dr. Davis R. Dewey, of the Institute, Dr. Alexander P. Humphreys, president of Stevens Institute and Dr. James F. Norris, president of the Technology Club of Boston.

As the men entered the reception-room, they were each announced and introduced. Dr. Maclaurin won the hearts of all, and he will go to the Institute with the loyal support of New York Tech men.

The arrangements made by the dinner committee, Harold Binney ('88), Walter Large ('79), P. A. Warner ('92), Clarence M. Joyce ('03), and Kaludy Spalding ('89), were in every way successful. The souvenirs were Tech Song Books, and William D. McJennett ('94), led the singing at the singer's table. About one hundred and twenty-five men were present at the dinner. President Richards opened the festivities by congratulating the club on the election of Dr. Maclaurin as president of the Institute, and introduced as toastmaster Harold Binney, who, in turn, happily welcomed Dr. Maclaurin in behalf of the club and New York Tech men, and called upon Mr. McKim to lead in a long M. I. T. cheer for the new President. The cheer was enthusiastically given, and Dr. Maclaurin's address received the closest attention and appreciation. At the close of his remarks all the men rose, and joined in singing "Prexy for Aye," and a resolution was unanimously passed extending to the Corporation of the Institute the heartiest congratulations of the club on their choice of Dr. Maclaurin for the Presidency.

Mr. Binney then introduced President Humphreys, of Stevens Institute, who in the course of his remarks referred in complimentary terms to Professor George V. Wendell ('92), which aroused such a series of cheers that it was necessary for Professor Wendell to rise and bow his acknowledgments. Dr. Humphreys also received the M. I. T. cheer as an expression of appreciation of his remarks and of the interest which Tech men have in sister technological institutions. Dr. Dewey was the next speaker, introduced by Mr. Binney as representing the brains of the Institute,

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as necessary in directing as the Corporation in maintaining the work of Technology. Dr. Dewey gave an interesting summary of Tech affairs, and brought home to us many happy recollections of the Institute. Dr. Norris, the last speaker, told us of the increasing activities of the Boston Technology Club and of the Alumni Association, and expressed the desire, which we all feel, for a closer co-operation of the alumni with the Faculty and the Corporation.

The annual meeting was held in an adjoining room, thus insuring a larger attendance than heretofore. After reports by the secretary and the treasurer, a report was read by the nominating committee, comprising E. G. Thomas ('87), J. Parker Fiske ('89) and J. J. Donovan ('06), nominating as candidates for election to the Board of Governors, required by the constitution as recently amended by increasing the Board from five to ten members, of which six are elected annually, the following men: Walter Large ('79), for a term of five years, representing the classes '68 to '88; and Harold Binney ('88), Ira Abbott ('81), Francis C. Green ('95), C. M. Joyce ('03) and K. Spalding ('89), for terms of one year each, representing the membership at large. After the election of these men a report was made by Allston Sargent ('98), chairman of the committee on joint club-house with college clubs, that Tech men in New York had subscribed $9,000 of the $12,000 required of each club, whereupon, after enthusiastic remarks by several of the members, further subscriptions were made until the total amount of $12,000 was subscribed, and thus the plan of a joint club-house, so far as the Technology Club is concerned, was assured. Reports of other clubs are expected in the near future, but it is a source of congratulation that Technology is in the lead. After a vote of thanks to Professor Richards for his devotion to the club and his services as president, this important and most interesting meeting adjourned.

The new Board of Governors at their first meeting elected the following officers for the ensuing year: president, Harold Binney ('88), secretary; William H. King ('94), treasurer; James E. Barlow ('05). The following men were appointed chairmen of committees: Walter Large, membership committee; K. Spalding,

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house committee; C. M. Joyce, entertainment committee; Allston Sargent, building committee; P. A. Warner, auditing committee; Harold Binney, finance committee. Ira Abbott was re-elected registrar, with a vote of thanks for his excellent work; and Francis C. Green was elected representative of the Technology Club of New York on the Council of the Alumni Association.

At a smoker held at the club-house Saturday evening, February 27, Dr. George A. Kunz, diamond expert of Tiffany & Co., gave a very interesting address on "The Diamond, how found and used in the Arts and for Ornament, with a Description of the Two Largest Diamonds ever found." Dr. Kunz illustrated his lecture with lantern slides, with diamonds in their original state, and with glass models of the largest diamonds.

As the lease of the present club-house expires May 1, negotiations are in progress for a new club-house to be used until the joint club-house is available; and the Board of Governors are considering the property, 17 Gramercy Park, South, which is in many ways very desirable.

The last smoker in the present club-house was held March 27, when Professor Charles M. Spofford, recently appointed to the Hayward Chair of Civil Engineering at the Institute, gave us an interesting address, illustrated by lantern slides, on "The Making of Structural Steel."

The annual reception and dance of the club will be held at the Waldorf-Astoria, April 16, 1909, and Dr. and Mrs. Maclaurin will be the guests of the evening.

The club is looking forward to the Reunion in Boston in June, and warning is hereby given that an enthusiastic New York delegation will be present.—*William H. King* ('94), *Secretary, 36 East 28th Street, New York City.*

A good live secretary can easily bring his class or alumni association up to concert pitch at this time when the men are showing such eager interest in Technology affairs. It is the duty of every executive officer to stir up the division of men intrusted to him, and make the most of the important events of 1909.

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NEWS FROM THE DEPARTMENTS

Studying Volcanoes—Technology and the Public Health—Important Investigations by the Mechanical Engineering Department

DEPARTMENT OF GEOLOGY.—Professor T. A. Jaggar, Jr., of the Geological Department has been granted leave of absence for the second term. Professor Daly will take charge of the department during his absence. Professor Jaggar is preparing to go to Japan and the Hawaiian Islands. In Japan he plans the study of geophysical observatories, which have been established there to investigate earthquake phenomena, and, if time allows, to examine some of the volcanoes there. On his return to this country he will stop at Hawaii. He will spend most of the summer in order to study volcanic phenomena with special reference to the reported recent activity of Kilauea.

The Geological Department in association with the Volcanic Research Society of Springfield, immediately after the news of the Messina earthquake reached this country, raised a fund of nearly $1,000 to enable T. A. Perret, a distinguished volcanologist resident at Naples, to proceed at once to Messina as an associate of the department and make geological investigations, not only of the earthquake, but of the present condition of Mount Ætna.

Plans are being made for the establishment by the Institute of a Research Laboratory of Geodesy and Physical Geology. Its staff will consist of the officers of the Geological Department who are interested in physical geology and of the officers of the Civil Engineering Department who have to do with geodesy. Under this organization will be built the observatory, at which will be made continuous records of earth movements, and where research work may be done in terrestrial gravitation, magnetism and variation of latitude. It is planned to maintain, in connection with the

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observatory, a small museum of geophysics, which will be open to the public. An important feature of the work of this laboratory will be its annual expeditions to distant points to make observations. It is planned to send such an expedition to Hawaii, under Professor Daly's direction, at some time during the present year. Advanced students of the Institute or other institutions will be welcomed for special work in this laboratory, the primary purpose of which is, however, the advancement of science.

Among the former work of the Institute on these lines might be mentioned the erection of the Geodetic Observatory in Middlesex Fells; Professor Burton's two eclipse expeditions to Naples in 1902 and to Martinique in 1906; Professor Hosmer's magnetic observatories in Labrador in 1905; the appointment of Professor R. A. Daly to the newly established professorship of physical geology in 1907; the gift in the same year of a seismograph from the estate of C. A. R. Whitney; Professor Jaggar's expedition for geophysical study to the Aleutian Island in 1907; and Mr. T. A. Perret's investigations at Messina in January of this year.

The Basch-Omori seismograph made in Strassburg has been received by the Geological Department, and awaits installation in the observatory at such time as that may be built. Two new petrographical microscopes fitted with mechanical stages have also been received. They will be used in graduate research work. These microscopes are the gift of Mrs. W. B. Rogers.

There are now six graduate students in the Department of Geology. Two of these are candidates for the degree of Ph.D., one of them being admitted to the candidacy last month. Two of the others are candidates for the degree of M.S. Mr. Clapp and Mr. Camsell are connected with the Geological Survey of Canada, Mr. Camsell being a permanent member of the staff. During the past summer Mr. Camsell investigated the gold deposits of Camp Headley, B.C., and the coming summer is to investigate the mineral resources of the Tulamun district of British Columbia.

Mr. Clapp began last summer a geologic and topographic survey of Vancouver Island, and will continue the work next summer. He was assisted in the field last summer by Mr. K. G. Chipman, a

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graduate of the Institute of Technology in the class of 1908. Mr. Chipman will have charge of the topographic work next summer, and Mr. J. A. Allan, another member of the department and graduate student, will have charge of a third party on the island doing detailed geological work.

Mr. Roy H. Allen, Course III. ('05), has returned from Mexico to begin graduate work in Mining Geology. Mr. Allen since graduation has spent most of his time in Mexico, and for the last year and a half has been manager of the Sierra Plata properties in Chihuahua. He has begun work with a view to possibly becoming a candidate for a doctor's degree.

DEPARTMENT OF BIOLOGY.—There is great interest this year in the development of public health subjects, and especially in public health instruction. Professor Sedgwick, as a well-known advocate of this branch of science and education, has taken part in a new course at Cornell and one at Columbia, having lectured at Ithaca on January 8 and at Columbia University on February 1 and 8. To him was assigned the responsibility of giving the opening address at Columbia in a series of sanitary science and public health lectures which will extend throughout the second half-year. He has also recently given public addresses at the Carnegie Institute in Pittsburg and before the Alumni Association there and at Chicago.

Dr. F. J. Slack, director of the bacteriological laboratory of the Boston Board of Health, has been appointed a special lecturer in the Biological Department, and now gives the practical part of the course in municipal laboratory methods.

A new course in Industrial Hygiene is given this year for the first time to the fourth-year students in biology by Professor Winslow.

Professor Winslow spoke before the Middletown Scientific Association, Middletown, Conn., January 12, on "Water Supply, Water Pollution and Water Purification." On February 17 he spoke on Darwin at a Lincoln-Darwin memorial meeting at the Wellesley Congregational Church, making the Lincoln address. February 25 he spoke on "Defective Drainage," at a mass meeting in the interest of public health held by the South End Improvement Society at Parker Memorial Hall.

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Professor Prescott and Mr. W. Lyman Underwood visited Florida during the midwinter recess, and made interesting observations there on the fauna and flora of the Everglades. Professor Phelps has recently developed still further his work on the disinfection of sewage, and is now serving as one of the chief experts on the Jersey City water case in which it is sought to purify a polluted supply by chlorine disinfection through bleaching powder rather than by ordinary sand filtration.

Plans are under way for an early transfer of the laboratories of the Sanitary Research plant now on Albany Street to Room 25, Henry L. Pierce Building, and the experimental filters to the vicinity of the pumping station at the calf pasture in Dorchester.

Department of Mechanical Engineering.—Two members of the Department of Mechanical Engineering are making, for their graduating thesis, an investigation of the effect of water vapor in the explosive charge in oil engines. The engine under test is a Mietz and Weiss two-cycle machine at the Wrentham pumping station. This engine operates with fuel oil, which is the residue left in the distillation of petroleum when the naphthas have been driven off. This fuel is pumped into the engine cyclinder, where it mixes with a considerable volume of steam previously introduced at low pressure, a small amount of air and a little cold water. The introduction of water vapor instead, as would be expected, of hindering the efficient operation of the engine, really contributes in a marked degree toward a satisfactory performance, not only preventing irregularities in the strength of the explosions, but also materially reducing the fuel consumption at given outputs. The subject has a very close relation to the advances which are being made in the design of all types of internal combustion engines.

In many localities where power plants must be erected the supply of water available for condensing steam is not sufficient unless it be used over and over again, wholly or in part. Plants of recent design often accomplish this cooling by spraying the water through nozzles arranged out of doors in a series of fountains above a shallow basin or reservoir. The temperature interval through which water can be cooled in this way and the loss of cooling water by

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evaporation depends, of course, on atmospheric conditions. Through the kindness of the Schutte & Koerting Company of Philadelphia, the Institute has received a centrifugal spray nozzle of the type used for recooling water in this manner. The nozzle is to be set up in the court-yard of the boiler-house, and will be tested with water taken from one of the condensers in actual service.

Mr. Kenneth Moller, 1907, has resigned from his instructorship in the engineering laboratory to engage in the design and development of a fuel oil engine, a new type of two-cycle engine, to be manufactured in Providence. Mr. E. O. Hiller, for several years an assistant in the mechanical engineering drawing-room, and lately with a large blank-book manufactory in Holyoke, has taken Mr. Moller's place.

Department of Electrical Engineering.—Professor George C. Shaad is revising his section on electric lighting in the text-book of the American School of Correspondence.

An inspection of the present location of the graduates in electrical engineering of the class of 1908 shows that they are distributed throughout thirteen states in the United States as well as in the Philippine Islands, Canada, Europe and Australia. Ten per cent. of the class are in teaching positions, and one student is taking a post graduate course at the Institute.

Professor D. C. Jackson has recently published a report as to the advisability of installing a municipal electric lighting plant in the town of Brookline.

The senior class in Electrical Engineering left on Tuesday, March 23, for the annual inspection trip. The party under the direction of Professor G. C. Shaad spent Wednesday and Thursday of that week at the works of the General Electric Company, at the sub-station of the Schenectady Railway Company and at the works of the American Locomotive Company. On Friday and Saturday the party went to Niagara Falls, where the plants of the Niagara Falls Power Company, the Ontario Power Company, the Niagara Falls Hydraulic Power and Manufacturing Company and the International Paper Company were visited. Arriving in Buffalo on Monday, March 29, the day was spent in the Buffalo sub-station,

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the Buffalo Smelting Works and the plant of the Lackawanna Steel Company.

DEPARTMENT OF CHEMISTRY.—Professor W. H. Walker is to give a seminar during the coming term on Chemical Engineering, giving special consideration to the principles on which the more important mechanical operations involved in the chemical manufacturing industries depend, such as drying and filtration by centrifugal force, together with a study of the types of apparatus available for such operations and the kind of work for which each is best adapted. The design and construction of chemical plants are considered with special reference to the chemical resistance of the materials employed.

Dr. W. K. Lewis is to give a seminar on "Problems in Industrial Chemistry, considered from the Point of View of the Phase Rule." The course is intended to show students how theoretical knowledge can be applied to the solution of problems in industrial work, and consists of informal discussions. The seminar is given Wednesday mornings at 8 A.M.

DEPARTMENT OF CIVIL ENGINEERING.—Professor George E. Russell is preparing manuscript for a text-book on Hydraulics to appear some time early in the summer. Its basis is a set of lithograph notes which have been used in Institute courses during the last two years. The purpose of the author is to present to the teaching profession a book primarily written as a text-book, but so filled with reference as to be of value to the practising engineer. The subject-matter includes a discussion of hydrostatics and all the more important parts of hydrodynamics. No attempt will be made to introduce abbreviated, and consequently incomplete, treatment of hydraulic motors and machinery, as the author believes that such matter needs to be handled in a separate volume.

DEPARTMENT OF MECHANIC ARTS.—Summer courses which are given in this department under the auspices of the Institute of Technology were established in 1896. Instruction is offered during the months of June and July in wood-work, forging, chipping and filing, and machine-tool work. The requirements for admission,

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and, in general, the work performed, are expected to correspond to those of the regular school year, and similar records and reports are given for the successful completion of each course.

These courses are undertaken primarily for the benefit of two classes of students: first, for those who wish to prolong their stay in summer, in order to distribute their work over a larger portion of the year or to gain more time for advanced work in their regular courses,—time especially valuable in the fourth year, when original investigation and the examination of professional problems form an important part of their occupations; and, second, for those who through illness or for other causes have deficiencies to make up. The continuity of effort and the freedom from interruption due to longer work periods made possible by summer work are of particular value in these laboratory courses.

DEPARTMENT OF MATHEMATICS.—Professor Woods has been granted a leave of absence for the school year 1909–10, and will sail for Rotterdam June 5th. He plans to spend some weeks at Göttingen, the remainder of the summer in Switzerland, and most of the coming year in Paris. Professor Bartlett and Dr. Phillips will also spend the summer abroad.

DEPARTMENT OF MINING ENGINEERING.—The government of one of the Oriental nations has notified the Institute that it will send two of its prominent professors here in the fall for a course in instruction in mining engineering. They come here because they cannot find elsewhere the kind of instruction they are seeking.

The mining laboratories were recently visited by Professor Carlysle, the new professor of metallurgy in the Royal School of Mines, London. He expects to return to the Institute in the summer to study the details of the work here, preparatory to building new metallurgical laboratories at the Royal School of Mines.

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GENERAL INSTITUTE NEWS

Faculty Standing Committees Report on Courses of Study—Professor Lowell's Lectures

The standing committees of the Faculty have presented their annual reports. Among the most interesting of these reports, since it affects so vitally the character of the training afforded by the Institute, is that of the committee on courses of study. This report includes this year an outline of the committee's general policy. The points which the committee consider in dealing with the course schemes are: (1) its general balance in the distribution of time among general scientific and professional subjects, with special emphasis against the over-specialization of subject-matter; (2) the general practicability from the standpoint of time required in exercise and preparation; (3) the subdivision of time. In the latter respect the committee maintains, among other things, that, except in the case of laboratory, drawing-room or field work, time should always be allotted for preparation. The principal matters with which the committee has dealt during the past year have been: (1) an important revision of the course in electrical engineering, diminishing the work in modern languages, introducing applied mechanics in the second year and increasing the elective possibilities of the fourth year; (2) the introduction of a new option,—steam turbine engineering in the fourth year of the mechanical engineering course; and (3) the introduction of required physical training into the first year.

The committee on five-year courses has been occupied with the preparation of this type of course in civil, mechanical, mining, electrical, chemical and sanitary engineering, in chemistry and in naval architecture. Of the schedules prepared, those for civil, mechanical and electrical engineering have been approved by the Faculty and announced in the Institute publications. These five-year courses are designed to meet the needs of three classes of stu-

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dents,—those who desire to pursue their studies in two allied branches of engineering; another class, who wish to go more slowly with their work than the present four-year schedule will permit; and a third class, who, in addition to their regular studies, desire to take courses in such general scientific subjects as biology or geology.

The committee on summer courses reported a registration of 269 students as compared with 283 in 1907. The maximum number attending any one course was 48, the minimum 4. Of the total number about 62 per cent. of the students in attendance were anticipating work of the next year, and the remaining 38 per cent. were repeating. About 60 per cent. were taking courses consisting principally of laboratory, drawing-room or field work. About 20 per cent. of the total number in attendance came from other technical schools, colleges or universities.

The report of the committee on tabular view and room scheme shows the difficulty experienced in holding all the classes because of lack of room in the buildings. Approximately 1,000 exercises per week must be provided for, and this is further complicated by the fact that arrangement must be made for bringing together students in different years in the same class. The final arrangement is reached by a number of trials and readjustments.

Thirty-four applications for financial aid were made to the committee on advanced degrees and fellowships by students desiring to pursue graduate work during the year 1908–09. Of these twenty-two were from Institute students, and twelve from graduates of other colleges. The committee recommended twelve grants, fourteen to the former, and eight to the latter class, of the latter three being subsequently declined. Eleven of the twenty-two successful applicants were candidates for the master of science degree, nine were prospective candidates for the degree of Ph.D. and two were taking advanced study without reference to a degree. The committee applied 90 per cent. of its available funds, the remaining 10 per cent. being attributable to the declining of grants by the successful applicants.

The report of the committee on undergraduate scholarships shows an increase of twenty over last year's figures in the number

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of students assisted. There are this year 178 students to whom the Institute has made grants. In addition to this the state has aided sixty-eight students, forty of whom were not aided by any Institute grant.

The committee on publication reported the issuing of 11,500 catalogues, 6,500 president's reports, 2,500 bulletins on advanced study and research, 4,000 bulletins on summer courses, 4,000 registers of graduates and 4,000 programmes.

The most important work of the committee on the library during the past year has been the preparation of a subject catalogue for the engineering library, which contains all the books of civil, mechanical and sanitary engineering departments. Provision was also made to publish articles of the character which the *Technology Quarterly* contained before its discontinuance in 1908. The available appropriation for periodicals during the present year was $2,100, which was apportioned in the general manner between the thirteen Institute libraries. These are the general, architectural, biological, chemical, electrical engineering, geological, historical and economic, mathematical, mining, modern language, naval architectural and physics.

Lectures on Cosmic Physics.—Professor Percival Lowell, non-resident Professor of Astronomy at the Institute and director of the Lowell Observatory at Flagstaff, Ariz., gave a course of six lectures on "Cosmic Physics" during the second term. The main purpose of the course was to give a survey of the present knowledge regarding the physics of our solar system, the evolution of the worlds, and to awaken interest and arouse imagination and thought in the large problems which the subject involves. The more important topics considered in these lectures were: 1. The birth of the solar system—dark bodies in space. Collisions with them, past and future. 2. Evidence of the initial catastrophe—single and double star systems. Moments of momentum. Tidal action. Meteorites. The bearing upon this of Mr. Slipher's recent spectrograms. 3. Formation of planets—internal heat generated. How calculated. Its effect upon the planet's career. 4. A planet's subsequent history—astronomy and geology. An explanation of paleozoic times

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and of the course afterward pursued. 5. Loss of planet's own heat—received from the sun. How evaluated. Glacial epochs. 6. Death of a world. *a.* Through accident—collision with other celestial bodies. *b.* Through paralysis—turning the same face always to the sun. *c.* Through old age—loss of water and of air.

FIRE IN LOWELL BUILDING.—On January 21 there was a fire discovered in the Lowell Building at about 8.15 in the evening. The fire was confined to the Modern Language Department, which suffered a loss of about two thousand dollars. None of the valuable books in this department were lost. The fire was supposed to have been started by crossed wires.

RESIGNATION OF MR. PORTER.—Instructor Charles H. Porter, of the Electrical Engineering Department, has resigned, and will enter the service of William Filene & Sons Company, where he will hold an executive position. Mr. Porter is a graduate of the Institute of the Class of 1903, and was graduated from the Electrical Engineering Department, having previously received from Brown University the degree of A.B. After his graduation he spent a year with the Chase Shawmut Company, after which he came to the M. I. T. as instructor, and has remained here ever since. He is responsible for the present system of problem work in use in the Electrical Engineering Department of the Institute.

PROFESSOR DEWEY'S APPOINTMENT.—Governor Draper has appointed Professor Davis R. Dewey a member of the board of trustees of the Massachusetts Agricultural College to succeed the late Carroll D. Wright. Professor Dewey has also recently been made president of the American Economic Society for the ensuing year.

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TECH MEN IN THE PUBLIC EYE

WALTER E. SPEAR ('97), has been appointed chief engineer of water supply, gas and electricity in Brooklyn, N.Y. Mr. Spear was recently division engineer of the Board of Water Supply of the city of New York. After graduating in 1897, Mr. Spear became assistant engineer for the Metropolitan Water Works in Massachusetts and also superintended the reconstruction of the municipal filters of the Lawrence Water Works. In 1900 he filled an important position with the New York Board of Water Supply. Three years later, under the auspices of the Burr-Herring-Freeman Commission, Mr. Spear discovered the great resources of underground water within the limits of the Brooklyn watershed. During this work Mr. Spear became thoroughly familiar with the Brooklyn Water Works and the ground water problem on Long Island. Mr. Spear is a member of the American Society of Civil Engineers, the New England Water Works Association and numerous other engineering societies. He is also a corresponding member of several engineering societies in Europe.

LOUIS A. FERGUSON ('88), has the distinction of being the only man who has ever been honored by the presidency of the three great electrical associations in America. He is now president of the American Institute of Electrical Engineers. In 1901 he was elected president of the Association of Edison Illuminating Companies, and in 1902 he was re-elected. In 1902, also, he was elected president of the National Electric Light Association.

LANGDON PEARSE ('01), has been selected by the city of Chicago to make scientific investigation into the methods of sewage disposal with an effort to devise means to reduce the pollution of the waters of Lake Michigan. Mr. Pearse was formerly connected with the Sewage Disposal Bureau of San Francisco.

JOHN M. HOOD, Jr. ('01), engineer of the United Railways and

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Electric Company of Baltimore, has been appointed chief engineer of the company.

C. W. RICKER ('91), has been appointed engineering assistant to the receivers of the Municipal Traction Company in Cleveland, Ohio. Mr. Ricker has had a wide professional experience, and has recently been electrical engineer of the Cleveland Construction Company.

G. C. WHIPPLE ('89), has been appointed, by the Common Council of Milwaukee, a member of a committee to devise a suitable plan for the disposal of the sewage of that city. Mr. Whipple is consulting professor of the Brooklyn Polytechnic Institute; a fellow of the Royal Microscopic Society; a member of the American Chemical Society; the Society of Chemical Industry; the American Public Health Association; American Water Works Association; American Society for Municipal Improvements, besides many others. He is the author of "Microscopy of Drinking Water," published in 1905, and "Value of Pure Water," published in 1906.

WILLIAM Z. RIPLEY ('90), of Harvard University, has been elected an honorary fellow of the Royal Anthropological Institute of Great Britain and Ireland, in recognition of his researches in the field of European and American demography.

GEORGE E. HALE ('90), of the Solar Observatory on Mount Wilson, has been appointed a delegate to represent the National Academy of Sciences at the Darwin Celebration at Cambridge.

G. A. ABBOTT ('08), has been appointed professor of physiological chemistry at the State Agricultural College at Fargo, No. Dak., taking the place made vacant by the death of Professor Wood.

FRANK L. PIERCE ('89), of Brooklyn, has been elected president and treasurer of the What Cheer and Hope Mutual Fire Insurance Companies of Providence.

HAROLD K. LOWRY ('04), has been appointed assistant signal engineer of the Chicago, Milwaukee & St. Paul Railway.

H. W. TYLER ('84), was recently made president of the Appalachian Mountain Club of Boston.

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LUCIUS K. RUSSELL ('86), has recently been made professor of chemistry at the Thomas S. Clarkson Memorial School of Technology, Potsdam, N.Y.

J. R. FREEMAN ('76), and ALLEN HAZEN ('88), were appointed members of a commission of six of the most prominent engineers to accompany President-elect Taft on his trip to the Panama Canal. The Taft engineering party was unanimously in favor of the lock canal. Mr. Freeman states that the foundation of the Gatun dam is as safe as the big dam of the Boston Metropolitan Water Works, and about one hundred and fifty million dollars and five years' time is being saved on the lock canal in addition to the interest of the entire cost of the canal ($350,000,000) for five years. He believes that ships will pass through the lock from one side of the isthmus to the other as quickly as from a sea-level waterway. In the narrowest parts the locks are twice as wide as the proposed sea-level canal would be, and for three-quarters of the length navigation will be conducted through large artificial lakes, allowing vessels to make much greater speed than they could possibly make on a narrow waterway.

CASS GILBERT ('80), C. GRANT LA FARGE ('83), ROBERT S. PEABODY ('68), J. G. HOWARD ('86), GLENN BROWN ('93), JOHN L. MAURAN ('89), A. W. BRUNNER ('79), DANIEL C. FRENCH ('71), ABRAM GARFIELD ('96) and E. H. BLASHFIELD ('69) have been appointed by President Roosevelt on an Arts Council, a national commission to supervise the designing of all federal buildings and their surroundings. The council consists of thirty members, of whom four are painters, four are sculptors and one is a landscape architect, the others being architects. It is interesting to note that, of the thirty men appointed to this very important and representative committee, ten are former students of the Institute, all of them architects except two, one a painter and one a sculptor.

ROBERT S. PEABODY ('68), GEORGE R. WADSWORTH ('98), ARTHUR A. SHURTLEFF ('94), RICHARD A. HALE ('77) and Desmond FitzGerald, of the Institute Corporation, have recently made a report to the Metropolitan Improvement Commission on some

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phases of the commercial and civic development of Boston,—a report on which they have been engaged as engineers for several months. The features principally touched on are the development of the harbor, including a free port, dry docks and ample warehouses, the improvement of freight and passenger traffic and designs for a civic centre adapted to several possible sites. This report has attracted wide-spread attention, and will be of great benefit at this time when the general development of Boston is receiving so much careful study.

ALLSTON SARGENT ('98) is chairman of the joint committee of the College Clubs Building Company. This is the organization which was formed to finance the proposed club-house in New York for alumni of Amherst, Brown, Dartmouth, Technology, Wesleyan and Williams.

WILLIAM G. SNOW ('88) has been elected president of the American Society of Heating and Ventilating Engineers.

A Directory of Every Former Student

Work on the new Register of Former Students is being pushed forward rapidly, and it is now expected that a copy will be mailed to every Tech man for whom we have a good address, during the present month. This register, which is published as a bulletin of the Institute, is somewhat larger than the catalogue, and this year will take the place of the Register of Graduates. The names are arranged both alphabetically and geographically. The alphabetical list contains the names and addresses of all former students, giving the business in which they are engaged.

Since the January REVIEW was published, over 700 associate members have joined the Alumni Association, and new names are coming in every day.

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MISCELLANEOUS CLIPPINGS

When interviewed yesterday as to the transfer to Harvard from the Institute of Technology of two of the latter's leading professors, George F. Swain, head of the Civil Engineering Department, and Harry E. Clifford of the Electrical Engineering Department, Acting President Arthur A. Noyes said:—

"In justice to these two professors and to the two institutions it should be understood that neither of these two men has made the change because of the offer of a higher salary. It is rather because they feel that to them as individuals there is offered a greater opportunity for service in connection with the development of the new school.

"The past history of the Institute has shown that even its best professors are seldom lured away merely by financial inducements. Nor is it likely that the income of the much-talked-of McKay millions will be more attractive than similar inducements elsewhere. With few exceptions members of the Institute's Faculty do not believe that the form of engineering education represented by the imperfectly co-ordinated undergraduate and graduate courses of the university has as much future promise of success and effectiveness as the Institute's system."

As to the possibility of the question of the Technology-Harvard merger being again brought up, now that a member of the Institute Corporation and two of its professors have been taken up by the university, Dr. Noyes said there was nothing in the statement. He said that even those members of the Faculty and Corporation who had been the strongest advocates of the merger admitted that it was not possible, and that Professor Lowell himself feels that the question has been settled never to be taken up again.—*Boston Globe, January 23.*

Dr. Maclaurin, whose accession to active leadership at "Tech" has been overshadowed somewhat, unfortunately, in popular interest by recent changes at Harvard, finds himself at the start of his administration burdened with grave financial problems.

Changes in site and buildings cannot be avoided much longer, except by the alternative of keeping down the number of students. Already the requirements for admission are so high that few young men approach them

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save with apprehension. The proposition to increase their severity is based, not on the idea that "Tech's" examinations are too easy, but on the necessity of keeping the number of successful applicants for enrolment within the limits of the Institute's facilities.

Unfortunately, "Tech" has no great body of wealthy graduates to whom she can appeal for endowments. The necessity of working for a living is one of the chief incentives that send young students to face the stiff examinations and strict discipline. And, while after-life holds many rich prizes, there are few, if any, Higginsons and Goulds and Vanderbilts on the alumni's roll.

It seems to be up to the Commonwealth itself to help Dr. Maclaurin out of his dilemma. It must never be said that any young son of Massachusetts, eager and able to meet adequate scholarship requirements, has to be "frozen out" by an adjustment of artificial standards necessitated by financial distress of the great Institute of which our state is so justly proud.—*Boston Post.*

President Maclaurin of the Institute of Technology comes to his new task without any of the strength or the weakness of long-established personal and social relations in Boston. Not an alumnus of the institution, not handicapped by any obligations incurred to any men or any families, he can view the problem objectively, as it were, and act with institutional ends only in view. On the other hand, of course, he has a deal to learn, much which a Bostonian or even a New Englander from any other state would know, and his thought and strength, to a considerable extent, will be spent in acquiring that which will come as instinctively to Harvard's new president as the salutations of the day. On the other hand, President Lowell, when he takes up the reins, will be the conscious, or unconscious, representative of traditions, points of view, ways of looking at things, which cannot but influence him in his executive decisions and which will prevent him from taking that objective point of view which President Maclaurin can take for lack of family, institutional and sectional deflections. It will be interesting to watch the outcome of the two presidencies, for this if for no other reason.—*Boston Herald, January* 18.

The plans for the Harvard Graduate School of Applied Science are being pushed forward rapidly in anticipation of the receipt next fall of the first $1,000,000 instalment from the McKay bequest for this purpose. Under the terms of the McKay will, the income of the property was to accumulate

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until it amounted to $1,000,000, when it was to be turned over to Harvard University for a school of applied science. Thereafter four-fifths of the income of the estate will be turned over to the university for the same purpose, and at the expiration of certain life interests the whole great estate reverts to the university, thus making its technical school the wealthiest in the country.

The history of instruction in applied science at Harvard has been unusual. Special attention was only given to such branches of applied science as were provided for by specific bequests, like mining, metallurgy and architecture, for it was the policy of the university to avoid covering the same field as the Massachusetts Institute of Technology. It was also felt by a section of the Harvard authorities that, while other universities might find it desirable to maintain large undergraduate engineering colleges, more good would be accomplished in the end for sound education principles as a whole, and the engineering profession in particular, if its instruction in engineering were put on the same level as that in law, medicine and theology. In other words, it was held that the Harvard School of Applied Science should be open only to those who had completed a college undergraduate course.

When the McKay millions were left to Harvard University for a technical college, it was at once apparent that a conflict of interests between the university and the Massachusetts Institute of Technology was imminent. After a careful study of the terms of the bequest it was decided that this great educational fund could be made available for both the university and the Institute by merging the latter with the former, making it a distinct undergraduate school, and leaving the university to carry on post-graduate work. The Institute was then cramped for funds and space, while the university could help it in both these respects. This merging of interests was urged by President Pritchett, of the Institute, President Eliot, of Harvard, and his successor, President Lowell, who was then a member of the Executive Committee of the Institute, which his family had materially helped in its early days. The Faculty and alumni of the Institute were strongly against the merger, however, and it was accordingly abandoned.

Since then the Harvard authorities have given very careful attention to the projected school of applied science, and announced last spring that they would not give undergraduate instruction, thus making Harvard the first university to demand for engineering the same standard of education which the great universities have all along required for the older learned professions. This decision removed the possibility of any direct competition between Harvard and the Massachusetts Institute. The high standard

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for admission to the Harvard School of Applied Science will operate to keep the number of students down, at least for some years, and probably other differences between the two schemes of education will develop. It is safe to say, in view of the action of the Harvard authorities for many years, that they will avoid, so far as practicable under the terms of the McKay bequest, any direct competition with the Massachusetts Institute. It is equally certain that Harvard will ultimately have a very fine engineering school with a very high standard.—*Engineering Record, January 30.*

In the last issue of the *Engineering Record* a reference was made to the five years' course of engineering study now offered at the Massachusetts Institute of Technology, with the observation that this important feature of the Institute's work "marks an innovation which deserves thoughtful consideration." In fact, it is such an important step in engineering education that it deserves far more attention than it will probably receive, at least, on the part of the profession in general. The Massachusetts Institute is to be congratulated upon taking a step of such moment in the interests of the education of engineers, indicating the alertness of that prominent technical institution in meeting the broadest needs of engineers in their educational training. . . . All the prominent technical schools have felt this pressure constantly increasing in intensity for a number of years. This is a natural and necessary development. The engineer is no longer a merely technical man. His professional work has become affiliated with many lines of business activity, and he is naturally drawn into many positions where general administrative qualities are required. This necessitates general educational training, as has been already recognized in the professional schools for lawyers particularly. It is a phase of engineering education to which schools of engineering must give their most serious attention, for it corresponds to a rapidly widening demand upon engineers. On the other hand, another educational question has arisen, whether shortened courses of even less than four years in length may not wisely be formulated for certain engineering specialties which young men may desire to follow who never expect to be full-fledged engineers. Such courses of study are already given in some evening courses in large cities, but it is a serious question whether engineering schools of the present day as a whole should not provide this special development of educational training.—*Engineering Record, October 17.*

When President Maclaurin, newly elected head of the Massachusetts Institute of Technology, and the new president of Harvard University,

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soon to be named, take up their respective tasks, they will find some that are common to each, and some that are peculiar and distinct, conditioned by the type of the institution, by its history, its environment and its resources. In the report just rendered on the affairs of the Institute of Technology, Acting President Noyes has outlined some of the pressing needs of that institution, as did President Eliot those of Harvard at a recent gathering in Providence. Conspicuous among the needs of the Boston institution is a new site and plant. At Cambridge the serious matter is to retain the old relative rank in student enrolment, owing to altered conditions, economic, social and religious, which affect former sources of supply.

There is one large problem, however, which each institution must face, and which both can settle best by co-operation rather than by separation; and it is one of the most important for education in New England. The logic of the matter, and the practical results of the effective competition of state-supported institutions of higher learning in the West, are combining to create a demand in New England for something of the same kind.

A demand for a State University in Massachusetts need never come, providing her present educational institutions work out a scheme satisfactory on two points, namely: tuition at nominal rates, which obtain in state universities, and service of the state in the same practical, efficient way in which some of the Western universities are bringing knowledge and scientific methods to bear on the life of the common people. Carefully and thoroughly worked out, and made inclusive of the best institutions of the state, a compact of this sort between Harvard and the Institute of Technology and other institutions, might permanently fend off a popular demand for something new, distinct and definitely controlled and supported by the state.

Nothing is more significant than the demand going up from the people everywhere for access to the best that education can give. Ancient Oxford and Cambridge are alive to the fact that they must get nearer the people, for the people are bound to get nearer them. London recently saw three hundred delegates from trades-unions in session, to "consider the relation between the older universities and labor, with especial reference to the forthcoming report of the joint committee of university and labor representatives on Oxford and the education of the people." This committee is soon to report a definite scheme of working-class education, by which Oxford may be brought back to the people, and representatives of the people brought up to and into Oxford. The dream of F. D. Maurice and his group of

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fellow Broad Churchmen and Christian Socialists years ago, is soon to come true.

In the higher institutions of learning of Massachusetts and New England the doors have always been open to welcome deserving and industrious youth of any creed, race or station; but New England universities and colleges have a lesson to learn from some western state universities,—how to formally and effectively serve society through the extension of instruction far beyond academic walls, and through the direct influence of educated experts upon civic problems as they arise.—*Boston Herald, December 15.*

. . . The characteristics of the Institute, perhaps insufficiently displayed by this sketch, are the following: (1) the importance attached to the fundamental principles rather than to the details of a trade; (2) the encouragement of social life among the students, a recent development due largely to the spirit of the previous President; (3) the encouragement of investigations made by the students, in whom is instilled much independence of thought and action; (4) the combining of professional with liberal studies. A liberal view is held as to the object of the studies, and serious effort is made to co-ordinate science and culture. The object of those who shaped the spirit of the institution was not to make solely engineers, but men of liberal spirit and large ideas.

After studying such an institution, one may doubt the wisdom of the usual method, which is this: to separate or to try to separate culture from science and technology study. It is usual to devote the first part of the student's life to culture, and to postpone his technical and scientific education. This artificial arrangement is completely irrational; for, if there is really ground for making any separation, it would seem more reasonable first to train the young mind completely by inculcating scientific methods, and to leave its general culture to completion in a later period, when it will have a widened horizon and better knowledge of men and affairs. However this may be, there can be no doubt that an education received at the Massachusetts Institute of Technology may be of the largest service to any one whose has the least aptitude for science. Even for a man who might aim at a purely scientific career, it would be well to go through such a school: he would escape the danger of too sharp a separation between head and hand, which is so unfortunate for both. Science is too much inclined to concern itself with abstractions and unreal problems. Its detachment from practice deprives it of its most necessary stimulus, and that to the

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harm of science or of industry. A good technological institution reminds us only that we need not to develop able men of science and of industry, but that we must develop science and industry together, and by these raise humanity to its highest possible level.—*Richard C. Maclaurin, in the "Revue Scientifique" (Paris).*

The reports of Acting President Arthur A. Noyes and the other officers of the Massachusetts Institute of Technology are given in the Bulletin of the Institute for January. The Acting President says: "Without sacrificing its national scope or its own independence, the Institute should, therefore, constantly strive to serve the state in every possible way,—in the development of its natural resources, in the improvement of its industrial processes and its transportation facilities, and especially in the solution of its educational problems. In all these respects it should stand to the Commonwealth much in the same relation as do the progressive state universities of the middle west. In order that the Institute may render, in larger measure, this public service, the state should supply the necessary resources. The forms which it would seem such assistance would most naturally take are: first, provision for a reduced tuition to Massachusetts students or increased scholarship funds for their benefit, such as will place the educational opportunities which the Institute affords within the means of a larger proportion of the well-prepared graduates of the high schools of the state; second, provision for the execution in its laboratories of investigations in engineering and applied science which are of especial importance to the development of the state's resources and industries; and, third, cooperation with the Institute in providing for workmen a sound education in the industrial sciences, by means of evening courses carried on in its class-rooms, drawing-rooms and laboratories by members of its instructing staff."—*Springfield Republican.*

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BOOK REVIEWS

LEAD AND ZINC IN THE UNITED STATES. Comprising an Economic History of the Mining and Smelting of the Metals, and the Conditions which have affected the Development of the Industries. By Walter Renton Ingalls ('86). pp. x+368. Illustrated. New York: Hill Publishing Company, 1908. $4.

Most publications dealing with the histories of metals have mainly an antiquarian interest. The two leading exceptions to this general rule are found in the great work of Beck on iron, and the more general book of Neumann on the leading industrial metals, as both authors have taken up the statistical, industrial and technical sides, and added them to the usual chronological treatment of the subject.

The present work deals with lead and zinc only, the ores of which frequently occur together and therefore influence each other in treatment. The new departure of this publication lies in the fact that, restricting the field to the United States, it considers the American methods of treatment of the metals from the mine through the smelter to the market of the finished product. The technical processes are given with sufficient details to be clear even to the reader not especially versed in this branch of engineering.

The time of writing such a work is opportune, as some of the founders of the modern American lead-smelting practice are still actively engaged in their profession, and as the fathers of the first industrial production of zinc are still living; nor could the work have fallen into better hands than those of the author, who is well known to the mining and metallurgical profession as an engineer, as a writer on subjects relating to lead and zinc, and as the editor of one of our leading technical journals and annuals.

The introduction gives a brief and concise review of the history of the two metals in this country. The first part, which deals with lead, is much longer than the second, devoted to zinc. This was to have been expected, as, while lead was first mined in the early part of the seventeenth century, zinc was not produced until two centuries later.

The history of lead begins with an account of the occurrence of lead ores. The discussion outlines the leading geological features of the deposits, but dwells more upon the character and grade of the ores, and upon the industrial conditions which governed the mining operations. This is followed by the chronology of the history of lead-mining, which starts from the first record of 1621, when lead was mined and smelted near Falling Creek, Va.,

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and records the leading events down to 1906. Chapter III. gives a valuable résumé of the development of the blast-furnace practice of smelting silver-bearing lead ores, and of the treatment of silver-free lead ores in the ore-hearth and the reverberatory furnace. It shows how blast-furnace smelting developed from crude beginnings into its present unsurpassed excellence by the application of science to art, and by concentration of operations into large, centrally located plants. In the account of the ore-hearth work the increase in yield by the recovery of fumes receives due consideration. While in smelting the work of Arents, Eilers, Hahn, Raht and others is recorded, in the chapter on refining we should have liked to see mentioned the invention of the Steitz siphon, which changed the refining practice as did the Arents siphon tap the blast-furnace work, and the systematization of the complications in the Parkes process, which is more largely due to E. F. Eurich than to anybody else, and which forms the basis of the modern American practice. We miss also any record of some early eastern refineries, as, *e.g.*, the Delaware Lead Works at Philadelphia and other smaller plants around New York. Chapters V.–XII. give a detailed history of the mining and metallurgical operations of the several states and territories. The production of metal at different periods is usually given, although in some cases, *e.g.*, in Montana, the data are missing. The remaining 55 pages of the 255 given to lead deal with the statistics of production, consumption and prices, with the commercial conditions, the tariff on lead, the labor conditions and with trade agreements and combinations.

The second part, which takes up 90 pages, treats of the history of zinc according to the same general plan as followed with lead. The mechanical concentration of zinc ores, which plays such an important part in the treatment, receives a separate chapter. The chapter on the metallurgy of zinc, the author's specialty, contains a critical review of the different types of distilling furnaces which have been and are used in this country. It is a chapter which every metallurgist will study with profit and pleasure.

The book, as a whole, is most satisfactory, as it is replete with valuable information presented in an interesting way. Last, but not least, it has a full index which enables the student to look up points upon which he desires enlightenment.—*H. O. Hofman, in Science.*

PRINCIPLES AND PRACTICE OF SURVEYING. By Breed and Hosmer. Vol. II. Higher Surveying. Wiley, 1908.

The second part of the book on surveying, by Messrs. Breed and Hosmer,

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which deals principally with topographical surveying and the elementary problems of triangulation, is a fitting supplement to their first book on surveying for engineers. All the geodetic and astronomical problems are such as can be solved with the ordinary engineer's transit, and the methods of observation and computation are stated in such simple language that they can be easily understood by any one who has studied plane and spherical trigonometry. The chapter on topographical sketching and the relation of topography to geology is especially interesting, and the illustrations admirably re-enforce the text. The chapter on hydraulic surveying, by Mr. H. K. Barrows, shows every indication of having been written by one who has had much practical experience. The trouble with many of our text-books on advanced surveying, geodesy and topography is that they give much more attention to those subjects than is desirable for the general civil engineering student. This text-book of Messrs. Breed and Hosmer embodies, to my mind, the exact amount of advanced work in surveying which is suitable for a student who is to become a general practising engineer. ALFRED E. BURTON.

MARS AS THE ABODE OF LIFE. By Percival Lowell, A.B., LL.D., author of "Mars and its Canals," director of the observatory at Flagstaff, Ariz.; non-resident professor of astronomy at the Massachusetts Institute of Technology; Fellow of the American Academy of Arts and Sciences. Illustrated. New York: The Macmillan Company; Washington: Brentano's.

The text included in this volume comprises the matter of a series of lectures delivered in 1906 before the Lowell Institute. The course attracted such a wide-spread attention that the lecture halls were filled to overflowing and it was necessary to repeat the addresses. The lectures were then published in the *Century Magazine*, and are now issued in book form. This successive treatment of Professor Lowell's explanations as to the latest discoveries regarding the conditions of the planet Mars is justified by the fact that the author is, doubtless, at this time the foremost among those who are engaged in the fascinating study of Mars. Professor Lowell, however, did not deal exclusively with that planet, but pitched his lectures in the key of planetary evolution in general, and the book is a presentation of a thesis which Professor Lowell long had in mind, and of which the studies of Mars formed only a part,—the research into the genesis and development of what is commonly called a world. He views Mars in this light, studying how it originated and how it came to differ from the earth in the process. In the

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first part of this volume the broader aspects of the question are dealt with at length under the general title "The Genesis of a World." In the second chapter the author treats of the evolution of life, which he regards as an inevitable phase of planetary evolution. The relation of the sun to the planets and particularly to conditions on Mars calls for a third chapter. Perhaps the most popular interest centres in the chapter which deals with Mars and the future of the earth, it being the author's thought that possibly by a study of the planet a concept of what is in store for this sphere may be obtained. As to the canals of Mars, Professor Lowell holds to the theory that they are neither rivers nor cracks, but have been produced by artificial means. He is firmly convinced of the existence of life upon Mars, but he believes it is nearing its end. The book is of a highly scientific nature, but it nevertheless appeals to the non-technical reader, and is decidedly of an instructive character, tending to correct misapprehensions regarding the present state of Martian study.

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NEWS FROM THE CLASSES

1868.

ROBERT H. RICHARDS, *Sec.*, Mass. Inst. of Tech., Boston, Mass.

The secretary has received a number of interesting letters from classmates, some of whom have not been heard from for a long time. One most interesting is from Ernest Bowditch, as follows:—

The statement that any part of my vacation in 1908 was occupied in seriously studying oyster culture and planting oysters at Isle au Haut, Me., may probably be received with amusement, but that is the truth. It may not be obvious, either, that the technical training of an engineer fits one peculiarly to carry on experiments in pisciculture.

It may not be generally known that, formerly, extensive beds of oysters flourished along the coast of Maine, Bay of Fundy and the south shores of New Brunswick and Nova Scotia; but now, with two or three exceptions, the localities where oysters thrive in northern waters, east of Boston and south of Labrador, appear to be confined to areas along the north shores of Nova Scotia and New Brunswick and about Prince Edward Island.

No plausible theory has been formulated explaining why the beds in Maine have died, though it is surmised that perhaps the temperature of the water may now be lower than formerly, owing perhaps to some temporary or permanent deviation of the Gulf Stream, and that oysters of that type under the new conditions can no longer flourish where they were once sufficiently vigorous to produce shells sometimes as much as nineteen inches in length.

The two native beds still alive in Maine are what are referred to, somewhat contemptuously, as "river" oysters, and are located in brackish water between the Kennebec and the Penobscot. The shell-fish received from there at Isle au Haut, for experimental purposes, were fairly large in size,—in fact, too large for the best seed oysters,—but were thin and in poor condition, due, perhaps, to unfortunate surroundings where they grew. Particles of soft coal, ashes and bits of refuse from a leatheroid factory were reported as being noticed on some shells, both of which would tend to discourage the health of fish supposed to grow best in clean, cool water.

These "river" oysters were obtained to use as a basis of experiment, because they were evidently descendants of the original bivalve settlers, and therefore acclimated; and with them were mixed an equal quantity

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of shell-fish from the south shore of Prince Edward Island, as being probably more likely to do well than if brought from the warmer waters of the south.

It is intended, however, to add oysters from Providence River, Long Island Sound and Norfolk during this year, in the hope that in this way a hybrid may develop that will not only stand the cold water, but multiply as well.

Judging from appearances and shape, the Prince Edward Island oysters are not the same type as those formerly growing in state of Maine waters. Though smaller, they appear to be very healthy and fat, and were received in prime condition.

Three years will be needed to try the experiment. Meanwhile it is intended to add to the collection at every opportunity, keep a record of the summer temperature of the water, and, as far as possible, eliminate star fish, mussels, etc., that are the natural enemies of the oyster.

A bed has been successfully started in this way in Casco Bay, though perhaps it is early yet to accurately gauge its measure of success. There would appear, however, to be no basic reason why, if oysters can be made to grow successfully at Portland and breed naturally along the north shore of New Brunswick, they cannot be made to grow between the two places. It has been stated that the summer temperature of the water where the writer is operating is too cold for the successful breeding of the oyster, though they probably may be made to grow there. Time will show whether this be true.

In any case, whether the experiment is successful or not, it is interesting to try, and, should it succeed, there would open an opportunity for the fishermen that might prove quite as remunerative to them as lobster fishing, without many of its hardships.

—Jackson intended to be at the annual alumni dinner, but was unable to attend. He reports that he is getting out a report on the Cambridge bridge, which has been a most interesting work, and has in contemplation a more technical description of the bridge, which will be presented to the American Society of Civil Engineers.—Whitney Conant, who is treasurer of the Jersey City Water Supply Company, Paterson, N.J., writes that he is to take a short trip abroad this summer with Mrs. Conant. He says, "Weight of years certainly rests very much lighter than I would have believed it possible in '68, and I am not offended when those who know me best tell me I am still a 'kid.'"—Bryant writes from Jamestown, No. Dak., that he is still very actively engaged in railroad engineering work, being out in the open much of the time. Sometimes he has to face blizzards in camp out there in the north-west with only an oil stove for comfort. Often, however, he can arrange to do his winter work in the south.—Eli Forbes has been leading an out-door life so far as possible since he retired from business. He

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is now at Lancaster, Mass. He writes that he is living a very quiet life, and at the same time tells us of a saddle trip of two hundred miles that he took last October through the state of Maine.—Howard Carson ('69), has been engaged mainly as chief engineer on the Boston Transit Commission in completing the Washington Street tunnel, making studies for the Beacon Hill tunnel and the Riverbank subway, etc. He is one of the advisory board of engineers for the double track railway tunnel now partially completed under the Detroit River for the New York Central lines.—Appleton writes from East Pepperell, Mass., that he is now spending much of the autumn and winter at his summer place at Pepperell, which contains about thirty acres in the highest part of the town, five hundred feet above the sea. The view from this point is very impressive, extending to the Uncanoonac Mountains in New Hampshire, about twenty-seven miles away.—Channing Whitaker submitted to an operation about two years ago, and for a time was forced to put in short hours at the Lowell Machine Shops with which he is connected. Recently, however, he writes that he is steadily gaining in vigor, and hopes soon to be himself again.—At the alumni dinner in January five of us, Tolman, Stevens, Fillebrown, Forbes and Richards, had a jolly time together, enjoying the lively doings and talking over old times.

1875.

E. A. W. HAMMATT, *Sec.*, Hyde Park, Mass.

The annual meeting and dinner of the class was held at Young's Hotel, Boston, on Friday, March 5, 1909. The secretary (who has been in Brattleboro, Vt., for several months) had arrived somewhat early in order to prepare his report, and the first member to greet him was Tom Bakewell. This was the first meeting Bakewell has attended since 1875, and he was somewhat at a loss when it came to recognizing the boys. At about 8 P.M. the following members sat down to dinner: Aspinwall, Bakewell, Beal, Bowers, Dorr, Hammatt, Hibbard, Howe, Kinnicutt, Lewis, Mixter, Plimpton, Simonds and Willard. At 9.50 President Hibbard called the meeting to order, and the secretary read the report of the last meeting, which was approved. The report of the executive committee having been accepted, that of the treasurer was presented. It was accepted and ordered placed on file. On motion the secretary cast a ballot for officers for the coming year, and the following were declared elected: president, Thomas Hibbard; vice-president, B. L. Beal; secre-

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tary and treasurer, E. A. W. Hammatt; executive committee, B. L. Beal, S. J. Mixter, W. P. Willard. On motion of Mr. Kinnicutt, it was voted that Messrs. Hibbard, Mixter and Beal constitute a committee with full powers to take charge of class matters connected with the M. I. T. reunion to be held in June next. Adjourned at 11 P.M.

1877.

RICHARD A. HALE, *Sec.*, Lawrence, Mass.

The annual meeting and reunion of the Class of '77 was held March 3 at the Technology Club at 7 P.M. President Carter being in San Francisco, vice-president Lawton presided. Ten members were present: C. F. Lawton, H. S. Southworth, Walter Jenney, B. C. Mudge, Charles H. Norton, A. L. Plimpton, George Baldwin, E. H. Gowing, Ed. W. Davis and R. A. Hale. Mr. Baldwin's arrival from Savannah was quite unexpected, and many interesting incidents of southern experiences were related. A committee, consisting of Joseph P. Gray, A. L. Plimpton, E. H. Gowing and R. A. Hale, was appointed to arrange for the June reunion. The former board of officers was re-elected, consisting of H. H. Carter, president; C. F. Lawton, vice-president; and R. A. Hale, secretary and treasurer. The death of Allan Knowles, of Yarmouthport, a former member of the class, was announced. General reminiscences were exchanged with no formal remarks. Letters were received from George W. Kittredge, who is about taking a trip to California, and E. G. Taber, who is assistant engineer of the Spokane Railway Company, Spokane, Wash. The meeting adjourned until the June reunion. Hon. Wallace Hackett ('77), represents Portsmouth in the New Hampshire legislature. He served as mayor of Portsmouth during the last two years.

1878.

LINWOOD O. TOWNE, *Sec.*, Haverhill, Mass.

Late fall, winter and spring styles in President of these United States and Governor of Massachusetts have, by vote of the people, evidenced a decided partiality for the classes of '78. Ours of M. I. T. has accordingly, contrary to its usual modesty, been forced to step to the front and put forth our man Draper. The entrance examinations, so to speak, were passed during Governor Guild's term, with Draper as acting governor much of the past year. His entire

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fitness for admission being thus shown, he has been duly assigned a desk under the gilded dome, and we of his scholastic family feel duly proud thereat. This, it is hardly necessary to state to other classes, was all arranged, preliminarily thirty and more years ago, so undergrads would best take notice if they want to be properly placed later on. The stars, fate, fitness and his known spirit of hospitality accordingly led his Excellency to arrange for the thirtieth anniversary dinner at his Beacon Street home on the evening of January 16. Here gathered twenty-one fellows, about half the original entering class, and practically comprising all the men, with two or three exceptions, located east of the Mississippi. Mrs. Draper and the Governor received the guests on arrival, after which adjournment was made to the dining-room. As has always been our custom, informality prevailed. Rackemann did make appropriate remarks on the toast to his Excellency. President Baker, on behalf of the guests at table, presented him with the Massachusetts State flag, or, rather, inquired if he could, without disturbing the etiquette of office, accept the same. Draper made answer in a manner to give him a passing mark and get the flag, which has since been completed, Baker taking it to the State House. Dinner over, adjournment was made to the library and a cheerful log blaze, around which talk of old and new days made midnight come all too soon. We are inclined to think that the classes of '78 are, after thirty years, the ones having those "best of days" the present Tech youngsters are singing about, and this in a way and with a heart-to-heartiness that can hardly be known by these youngsters till they have had the same length of time to become seasoned, to summer and winter each other, as our little group has done in all the years. One of the pleasant incidents of the evening was the first wearing before us by Baker of his recently received decoration from the Mikado of Japan of the "Order of the Rising Sun." This order was established about 1860, and has been conferred on only thirty-eight individuals. Baker modestly confesses to mild courtesies rendered Baron Kaneko and other Japanese representatives coming to this country. To hear him tell it, one would think he'd done little but feed them (a pleasant way of his, as we of the class well know), but we opine that deep in the hearts of the diplomats from the Flowery Kingdom there's something more,—at least they evidently so persuaded the Mikado. At any rate, the decoration is a handsome thing in itself, now worn by an all-round similar man. Besides the host and President Baker, those at table were: Allbright, Bradford, Brigham, Chappell, Collier, Edwards, Higgins, Miller, Nichols, Rackemann, Reed, Rich, Robertson, Sargent, Sawin,

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Schwamb, Williams, Woolworth and Towne. Rollins was missed at the dinner,—his first absence in years. Mrs. Rollins and he have been wintering abroad, especially in Egypt. Having successfully dammed the Charles, he has certainly earned a run and a rest across the bigger water.

1879.

E. C. MILLER, *Sec.*, Wakefield, Mass.

The annual meeting of the Class of '79, M. I. T., was held at Reisenweber's, 58th Street and 8th Avenue, New York city, Dec. 28, 1908. There were present William J. Haskins and Mrs. Haskins, Horace J. Howe, S.B., Daniel C. Hemingway, Frederic H. Lane, S.B., and Mrs. Lane, Walter Large, William W. Macfarlane, S.B., Arthur M. Waitt, S.B. At the business meeting twenty-five ballots were cast and polled by Messrs. Howe and Haskins, who reported the following officers elected: president, Frederic H. Lane, New York city; vice-president, Professor R. W. Lodge, Boston, Mass.; secretary, E. C. Miller, Wakefield, Mass.; business committee, Allen M. Jenks, New York city, and Louis P. Howe, Marlboro, Mass. In the absence of the secretary, Mr. E. C. Miller, whose business engagements prevented his attendance, the minutes of the last meeting were read by Mr. A. M. Waitt and approved. Letters of regret were read from Vibe C. Spicer, Edwin C. Miller, William S. Stearns, Charles S. Gooding and R. M. Hosea, and notices that they were alive, but unable to attend, from F. B. Knapp, J. W. Cabot, Wilson Eyre, H. G. Hall, G. W. Fabens, F. S. Coffin, C. A. Washburn, F. G. Stantial, Professor R. W. Lodge, Louis P. Howe, George F. Blake, William S. Hazeltine, E. A. Cutter, William H. Rea, Professor W. H. Pickering and George F. Riggs. Also notices of non-ability to attend were received from two members who were too modest to sign their names, and deserve the obscurity that shall be theirs. The members of '79 are saddened to learn of the death of their well-beloved member, Mr. Frank E. Alden, who died at Edgartown, Mass., Sept. 16, 1908, rounding out in his prime a particularly useful as well as successful career. Resolutions of respect and sympathy for his family were adopted. The banquet began promptly at 7.30, and good fellowship, reminiscences of the past thirty years, songs and stories, made the time pass quickly till nearly midnight. The presence of the ladies was an innovation heartily welcomed, especially since the attendance was small, and their graciousness was fully equal to the occasion.

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1881.

FRANK E. CAME, *Sec.*, 512 Guy Street, Montreal, P.Q.

Mr. George A. Mower, of the Class of '81, presided at the annual American Club banquet in London last year.—Mr. Harry H. Cutler has retired from business, and has been spending the winter at Pinehurst, N.C., where he had a cottage. He spends his summers mainly in autoing.

1882.

WALTER B. SNOW, *Sec.*, 170 Summer Street, Boston, Mass.

Edgar B. Thompson has been appointed superintendent of motive power and machinery of the Chicago, St. Paul, Minneapolis & Omaha Railway. Since he left the Institute, the story of his progress is as follows: He began railway work on May 18, 1882, with the Chicago & North-western at Chicago. On Feb. 26, 1885, he was made chief draughtsman, and on Feb. 2, 1895, was appointed mechanical engineer. On March 12, 1897, he was appointed mechanical engineer of the Northern Pacific. From March to August, 1899, he had charge of some special work in the car department of the Chicago & North-western. On Aug. 5, 1899, he again assumed the duties of mechanical engineer of the Chicago & North-western, and on Jan. 1, 1903, he was made master mechanic at Mason City, Ia. On June 1, 1903, he was appointed master mechanic at Winona, Minn., and on July 1, 1906, was made assistant superintendent of motive power and machinery, which position he held until his recent appointment.—Miss Clara Preston Ames announces that she will conduct a small party on a three months' trip to Europe, sailing from New York, June 26. The itinerary includes visits to the finest cathedrals of England, France and Germany, the university town of Oxford, the castles of Windsor, Warwick and Heidelberg, the wild and picturesque scenery of North Wales, the quaint scenes of Dutch villages, the interesting mediæval architecture of Hildesheim and Nuremberg and some of the grandest parts of Switzerland. Special attention is given to the art treasures in the large cities. Ten days each are given to London and Paris and five days to Berlin.—John F. Low's permanent residence and official address is now Duxbury, Mass.—George W. Mansfield is interested in the Ninigret Mills Company, Mystic, Conn., of which company he is treasurer.—James P. Munroe, as a representative of the Institute, addressed the alumni of Johns Hopkins University at their

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annual dinner in Baltimore on February 22. On February 14 he spoke on Abraham Lincoln at the one hundredth commemorative services at the Boston Young Men's Christian Union and on Savings Bank Insurance and Old Age Pensions at Wellesley College on March 5. The *Popular Science Monthly*, March, 1909, contains an article by Munroe, entitled "The American Public School."

1884.

PROF. H. W. TYLER, *Sec.*, Mass. Inst. of Tech., Boston, Mass.

The annual dinner was held at the Technology Club, February 19 with the following ten members present: Gill, Hammett, Doane, French, Dearborn, Puffer, Appleton, Bardwell, Coburn, Tyler. Interesting letters were received from several of the absentees, and announcements were made by the committee on the twenty-fifth anniversary book. The class expects to have a large gathering at the June reunion, and another dinner of local members in the meantime. The publication of the book will follow as soon as possible after the Reunion in June, and will include an account of the latter.—Puffer declined to continue service as secretary, and Tyler was elected.—Luther is believed to be the first member of the class to have a son in the instructing staff.—'84 has now three members on the Corporation: Rotch, duPont and T. W. Robinson, besides at least a half interest in Newell, whose term has just expired.

1885.

ISAAC W. LITCHFIELD, *Sec.*, 88 Broad Street, Boston, Mass.

At the alumni dinner in January '85 had a larger quota of men present than any of the classes at the neighboring tables. Those present were: Hayes, Eaton, Brown, Talbot, Merrill, Dewson, Bartlett, Jim Kimball, Morss, Little, Richards, Pierce and Litchfield. The dinner was a lively one throughout, and '85 did not lose any tricks. The annual dinner will be held at the University Club, Saturday evening, April 10, at seven o'clock. The reception committee will be on hand about six o'clock as usual. At this dinner, arrangements will be made for the reunion in June and for our twenty-fifth anniversary, which comes next year. The election of C. R. Richards as a term member of the Corporation is a source of great satisfaction to '85. We now have two classmates on the Corporation, Morss and Richards, and one, Fred Newell, has just retired, his

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term of office having expired.—At the meeting of the American Association for the Advancement of Science, which was held in Baltimore last December, two '85 men, chairmen of divisions, presented papers. An address on "Science Teaching as a Career" was presented by Henry Talbot as a retiring chairman of Section C, and the other, on "The Untilled Field of Chemistry," was presented by Arthur D. Little, chairman of division of industrial chemists and industrial engineers of the American Chemical Society.—A recent number of the *Transcript* made mention of the incorporation of the Rhode Island Coal Company, with Henry M. Whitney as president, for the purpose of mining the anthracite coal that is found in Narragansett Bay. Attempts to utilize this coal heretofore have failed, because it lacks a certain amount of volatile matter. The paper states, however, that Henry Williams, who is an expert in coal, has solved the problem of making it commercially valuable by applying a cheap chemical solution, making the efficiency equal to high-grade Pennsylvania anthracite.—Dan Lufkin, who has for many years been manager of the Snow Steam Pump Company of Buffalo, has severed his connection there, and is now developing a natural gas proposition for The Texas Company of Fort Worth, Tex. On leaving Buffalo, he was tendered a farewell banquet by about a hundred citizens, on which occasion he was presented with "The Life of E. C. Lufkin, by John D. Rockefeller," which is largely reproduced in the columns of the Buffalo *Evening News*, and which throws a new light on the career of our classmate. Selections from this biography will be read at the class dinner next month.—Eaton came a long way to attend the alumni dinner. His headquarters are at Baltimore, where he has a contract to dredge a 35-foot channel in Baltimore Harbor. He also has an $800,000 contract with the government to dredge a channel in San Juan Harbor, Porto Rico. —The secretary has recently heard from J. F. Davenport, who makes a peep from Fall River, Mass., where he is in business under the firm name of Gage & Davenport. We hope to see him at our class dinner next month.—During the winter Newell had a very pleasant experience in the Hawaiian Islands, which he visited in the interests of the Reclamation Bureau. The Tech men there, of whom there are a number, gave him a delightful dinner at the University Club.—Bates' address is P.O. Box 118, Hoboken, N.J. He is now with the New York Central & Hudson River Railroad Company. He says that he hopes to come on to Boston before long, probably to the class dinner.—The *Transcript* recently described at length the electrical devices of the Charles River dam lock, and said, "Upon Electrical Engineer Arthur I. Plaisted, who has supervised the installation of the plant, rests the credit for the results."

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1887.

EDWARD G. THOMAS, *Sec.*, 157 Congress Street, Brooklyn, N.Y.

'87's annual dinner occurred at Young's Hotel on the evening of February 20, and was attended by Cameron, Coburn, Lane, Taintor, Bryant, Fred Thompson, Stewart, Hathaway, H. W. Kimball, Wakefield, Crosby, Hussey, H. S. Adams, Very, H. H. Brainerd, Fish, Spaulding, Sever, Tripp and E. G. Thomas, and we enjoyed for a time the company of Russell of '68. For the ensuing year the officers chosen were: president, B. C. Lane; vice-presidents, George Sever and F. M. Wakefield. A committee was appointed to care for '87's interests at the second Tech reunion, and various routine business disposed of. A telegram of good cheer was sent the Northwestern Association, over whose dinner in Chicago Shortall was presiding while we dined in Boston, and the good wishes of the Chicago men were promptly returned. Taintor inveigled us into a scheme for ascertaining the average income of the men present, and stated as a result of his computations that the men present were averaging $5,924 per year each. Some of us conclude that he is not good at figures. Fish was on board the steamer "Republic" at the time she was cut down by the "Florida," and was induced to tell us of his experience, which was most interesting. He was on his way to the Azores to meet his family on their way back from Europe. Stewart has not been with us for a long time, and we were glad to have him report that his health has been restored by his life in the south and that he had returned for good to his home in Charlestown.—Winthrop Cole is now connected with the Engineering Experiment Station of the United States Naval Academy at Annapolis, Md.—Draper is at present in Europe. The newspapers recently noted that he had acquired the rights in all parts of the United States, except Rhode Island, to use a process for increasing the calorific value of coal by adding chemicals. The rights for Rhode Island are owned by H. M. Whitney, who proposes to redevelop the disused anthracite mines of that state by the use of this process.—Hobart is building a new factory for the Triumph Electric and Ice Machine Company, to provide for the steadily increasing demand for his machinery. At present the plant is running at night to get out ice machines contracted for delivery previous to the summer months, and Hobart makes no complaint of hard times. —A. R. Nickels is now located at Dee, Ore.—H. W. Kimball is superintendent of the plant of the J. E. Keelum Company at Middletown, Conn.—Walter S. Moody is at present chief engineer of the

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transformer department of the General Electric Company, with headquarters at Pittsfield, Mass.

1888.

WILLIAM G. SNOW, *Sec.*, 1108 Penn Mutual Building, Boston, Mass.

Edwin S. Webster was elected president of the Alumni Association. At the alumni dinner Webster, Sawyer, Shaw, Keough, Robb, Bradlee, Underhill and Snow were present. The following items relating to '88 men appeared in the Boston *Transcript*:—

Louis A. Ferguson ('88), is the first graduate of the Electrical Engineering Department of the Institute to become the president of the American Institute of Electrical Engineers, the most distinguished office that the professional engineers of this country can confer upon each other. Mr. Ferguson is vice-president of the Chicago Edison Company, and is recognized as one of the accomplished central station engineers and managers in the country. He has held many high offices during his career, among them being the presidency of the National Electric Light Association. Mr. Ferguson recently gave a very interesting talk to the members of the Electrical Engineering Society at the Institute on the occasion of their first formal dinner of the year.

The Stone & Webster Corporation has been appointed to the important position of straightening out the entanglement of the Interborough-Metropolitan Street Railway System in New York city. The Stone & Webster Corporation is composed of Charles A. Stone, Edwin S. Webster and Russell Robb, all of '88, and Henry G. Bradlee, of '91. The extreme complexity of the street railway problem in New York city and its reference to the Stone & Webster Corporation for solution is one of the highest compliments which has been paid to its members, and the institution from which they graduated.

—B. R. T. Collins spent a few weeks in Boston this winter, returning to Texas, where he has been located since last April in connection with Stone & Webster properties.—William G. Snow has been elected president of the American Society of Heating and Ventilating Engineers.—The President invited the following engineers to accompany President-elect Taft on his trip to Panama: Arthur P. Davis, chief engineer of the Reclamation Service, Washington, D.C.; John R. Freeman, Providence, R.I.; Allen Hazen, New York city; Isham Randolph, Chicago; James Dix Schuyler, Los Angeles, Cal.; Frederic P. Stearns, Boston. The Boston *Evening Transcript* says of Hazen:—

Allen Hazen was born in Hartford, Vt., Aug. 28, 1869, and was educated

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in that town, and was graduated from the Massachusetts Institute of Technology. He began his professional career at Lawrence, Mass., where from 1888 to 1893 he was in charge of the State Board of Health Experiment Station. He was in charge of the sewage disposal at the World's Columbian Exposition in Chicago in 1893, and practised his profession privately in Boston from 1894 to 1897. In the latter year he went to New York, and was chief engineer of the Albany Water Filtration plant, which was built in 1898–99. He is a member of the American Society of Civil Engineers, Boston Society of Civil Engineers, American Water Works Association, New England Water Works Association, American Chemical Society, American Public Health Association, and other similar organizations. He is the author of "The Filtration of Public Water Supplies," which was published in 1895, and has written a large number of articles on water supply and sewage disposal. His residence now is New York city.

—Harold Binney has formed a co-partnership with Seabury Cone Mastick and Herbert Gouverneur Ogden for the practice of patent, trademark, copyright and corporation law, under the firm name of Binney, Mastick & Ogden, with offices at No. 2 Rector Street, New York.—The Boston *Herald* of January 1 states:—

The combination of all gas and electric companies in the Blackstone Valley, including those of the cities of Pawtucket and Providence, for which purpose the Blackstone Gas and Electric Company was incorporated last year, was formally effected when Stone & Webster, of Boston, filed at city hall in Pawtucket a collateral trust bond of $5,000,000 to the Slater Company, trustees, to cover the bondholders of the company. The new company is the holding corporation of the Pawtucket Gas Company, Pawtucket Electric Company, the Woonsocket Gas Company and the Woonsocket Electric Machine and Power Company.

—The secretary wishes to remind those who have not done so to send in data, etc., for the second decennial class record.

1889.

PROF. W. E. MOTT, *Sec.*, Mass. Inst. of Tech., Boston, Mass.

The twentieth annual dinner and meeting of the class was held at the University Club, Boston, on the evening of February 1. The following members of the class were present: R. N. Cutter, E. V. French, Hollis French, F. S. Hollis, H. Howard, H. H. Hunt, W. S. Johnson, W. H. Kilham, L. H. Kunhardt, F. A. Laws, W. W. Lewis, J. W. Linzee, H. Loring, Jr., W. E. Mott, E. E. Peirce, F. S. Pierce, F. H. Thorp, W. W. Underhill, G. C. Wales, A. L. Williston. In the absence of the class president, W. B. Thurber,

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who was ill as the result of a serious fall, Hollis French presided at the business meeting. Announcement was made of the election of W. H. Kilham as class representative on the newly organized Council of the Alumni Association. Several committees were appointed, and plans for the reunion in June next were informally discussed. It has been suggested that we hold our annual dinner in New York city occasionally, and Messrs. F. S. Pierce and A. L. Williston were made a committee to report on the matter next June. The good attendance and the "get-together" attitude of the fellows would seem to indicate that the members of the class were beginning to appreciate the desirability of renewing old friendships, and give promise of a large attendance at our twentieth reunion in June next.—W. H. Kilham has another daughter, born a few weeks since. In the Sunday *Herald* of February 28 Kilham forecasts the city of the future, with its terraced towers, aërial sidewalks, and twentieth-story foot-bridges over the streets, his prediction for the "City Beautiful" of the future. His firm has been retained to carry out the development of the State Industrial School for Boys at Shirley.—Montgomery Rollins is busily engaged upon a new book to be published by G. Routledge & Sons, London, entitled "Convertible Securities." He is also lecturing at Dartmouth College on practical banking.

1892.

PROF. WILLIAM A. JOHNSTON, *Sec.*, Mass. Inst. of Tech., Boston.

H. S. Webb gave a lecture on Wireless Telegraphy and Telephony before the Engineers' Club of Central Pennsylvania at Harrisburg, Pa., Tuesday, Jan. 26, 1909. The following clipping was taken from the Birmingham *Herald*, Jan. 31, 1909:—

"In Mr. Edward C. Wells, who has assumed the duties of general superintendent for the Hardie-Tynes Manufacturing Company, the industrial and social forces of this city have received an acquisition," said a well-known man last night. "Mr. Wells is a college man and a graduate of the Boston School of Technology. His technical education has been secured by much practical experience in large shops in the east and north, which build Corliss engines and specialize in the construction of machinery of the heavier class. He has already demonstrated his ability and made a number of friends."

—The following clipping was taken from the *Engineering Record* of Feb. 13, 1909:—

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Mr. D. S. Hawkins, consulting mechanical, electrical and foundry engineer, with offices in the Rose Building, Cleveland, Ohio, is making a specialty of the legal phase of engineering, with particular reference to co-operating with attorneys where expert engineering is required in the preparation and prosecution of a case. Mr. Hawkins is a past student of Massachusetts Institute of Technology, and during the past fifteen years has been employed as draughtsman, designer, estimator, engineer and representative of a number of large engineering corporations, including the General Electric Company, the Pennsylvania Railroad, F. H. Richards, patent attorney, New York city, the Westinghouse Electric and Manufacturing Company and the J. D. Smith Foundry Supply Company.

—The following men were at the alumni dinner: Atwood, Chase, Dudley, Francis, Fuller, Hutchinson, Ingraham, Johnston, Metcalf, Nutter, Bowen, Carlson, Hall, Park, Wallace.

1893.

FREDERIC H. FAY, *Sec.*, 60 City Hall, Boston, Mass.

The class may well be proud of the honor that has come to one of our members, Charles M. Spofford, who has been appointed to succeed Professor Swain as the Hayward Professor of Civil Engineering at the Institute. The honor of Spofford's selection appears even greater to the Tech men who know the exceptionally high quality of instruction in structural engineering given by Professor Swain and what it means for one to be selected to carry on the work of so eminent a teacher. It is probably true that in no other technical school in the country is to be found a more thorough course in structural engineering than that offered by the Institute. Professor Spofford, by reason of his ability and his training at Technology, both as an undergraduate and as a graduate student, supplemented by a broad experience in active practice and by teaching experience at the Institute and elsewhere, is probably as well fitted as any man in the country to take charge of our work in structural engineering. A detailed account of Spofford's achievements is to be found in an article in this number, and will not be repeated here. It is sufficient to say that throughout his experience as an engineer he has made good in all that he has undertaken. As a teacher, he has met with noteworthy success, especially in his work at the Brooklyn Polytechnic Institute, where in his four years' stay he has brought his department of civil engineering to a plane of high standing and efficiency. In his work with Mr. C. W. Hudson

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last summer in the investigation of the strength of Blackwell's Island Bridge, New York (the second largest and heaviest bridge in the world), Spofford not only gained experience which comes to but few engineers, but he showed his ability to successfully handle work of large magnitude. On the side of active practice Professor Spofford's experience is considerably greater than that of most engineers engaged in teaching; and the combination of practical experience, thorough theoretical training and sound common sense contributes in no small degree to Spofford's success as a teacher. Spofford has taken an active interest in class affairs both as a student and during his subsequent residence in Boston. He was assistant secretary of the class from 1898 to 1905, and did much efficient work in various class matters, notably in the preparation of the decennial catalogue. During this time he took an active interest also in the work of the Association of Class Secretaries, and devised and put into operation a plan by which, with the Institute's co-operation, the nucleus of the graduate organization of each class is begun in the freshman year by the preparation of a card catalogue of all members, which is corrected year by year, and turned over to the graduate secretary when the class leaves the Institute. As a member of the Income Fund Committee organized in 1904, Spofford has assisted in raising among the alumni a fund of over one-quarter of a million dollars, contributed towards the present current expenses of the Institute. In these and many other ways Spofford has shown his deep interest in all that pertains to the Institute's welfare, and, besides obtaining a teacher fully competent to maintain the high standards in teaching set by Professor Swain, the Institute gains also by the return to her Faculty of one of her most loyal sons.—Edward Gardner Pease, who was one of the popular members of the class in our student days, had scarcely been heard from since he left the Institute until very recently. He is in business in Dayton, Ohio, under the firm name of the Buckeye Iron and Brass Works, and is engaged in the manufacture of cotton and linseed oil machinery, tobacco-cutting machines and a full line of brass goods for engine builders and steam fitters. During the Spanish-American War he served in the First Ohio Cavalry. In public affairs he has served three years in the city council at Dayton, and is at present a member of the Ohio Commission for the Blind and chairman of the playground committee of the Vacation School Association. In response to a request for a short personal history he writes:—

The only thing that would be of any interest is a trip I took to Russia in 1902. In that year two representatives of the Ministry of Appanages, which has charge of all of the estates of the czar and all of the royal family

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of Russia, came to this country to purchase the machinery for a complete cottonseed oil mill. Our firm secured the order, and in December, 1902, with one of our best mechanics I left for Russia. This mill was erected at a place called Bairam Ali in Russian Turkestan. This village is on the ruins of the ancient city of Merv, and is in one of the most interesting countries on the globe. Being so very far away, not many travellers are attracted there, but the ruins through the country, at Samarkand, Bokhara, Merv and many other places are among the most wonderful in the world. I have a collection of photographs which I took over there that I believe is the best in existence anywhere. I saw quite a lot of Russia, spending three weeks in Moscow, two weeks in St. Petersburg, a few weeks in the Caucasus Mountains, and rode over the celebrated mountain pass from Vladikaukaz to Tiflis. Have crossed the Caspian Sea six times and been as far east as Tashkend. I left Russia the last day of August, 1903, and we built, way down in the heart of Asia, the finest cottonseed oil mill in the world. I have a gold watch and chain and a diploma given me by the czar for having erected the mill on his private estates.

—Notable among the weddings of the Lenten season in Boston was that of Miss Edith Sherman, daughter of Mrs. William H. Sherman, and Henry Adams Morss. The ceremony took place on Wednesday afternoon, March 10, at the home of the bride's mother, 463 Commonwealth Avenue, and was performed by Rev. George A. Gordon, D.D., pastor of the Old South Church. The house was decorated with a profusion of flowers, and a deep bay-window in the drawing-room was transformed with greenery and white roses into a bower, where the bridal couple stood. The bride was unattended, and was given away in marriage by her mother. Harry H. Walker served as best man, and for the reception which followed the ceremony the ushers were John Wells Morss, Henry Hildreth, Samuel B. Gloss and Samuel Braman (M. I. T. '93), of Philadelphia. Mr. and Mrs. Morss sailed from San Francisco about the first of April to spend their honeymoon in Japan.—Percy H. Thomas presented a paper before the Engineers' School, United States Army, at Washington, D.C., in February, upon the subject of "Hydro-electric Developments and High Tension Practice." This paper will be published in "Professional Memoirs," a government publication, in the near future. He also addressed the Washington branch of the American Institute of Electrical Engineers on "The History and Development of Mercury Vapor Apparatus."—William G. Houck, of Buffalo, is president for the ensuing year of the Engineers' Society of western New York.—James A. Emery, formerly vice-president and general manager of the Birmingham (Ala.) Railway Light and Power Company, has been since August, 1908, with Ford, Bacon & Davis, 115 Broadway, New York city,

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in charge of their report work on street railways, electric light plants, etc. From August until January last he was at Toledo, Ohio, reporting upon railway and electric systems there.—William W. Peabody is now assistant engineer with the New York city Board of Water Supply, and located at White Plains, N.Y. He is one of the members who have not been heard from for many years. Upon leaving the Institute in 1891, he served for four years as inspector of sewers and street construction at Newton, Mass., and a year in a similar capacity at Brockton. In 1896–97 he was resident engineer with the Massachusetts Highway Commission, in charge of the building of a highway at Tyngsboro. After a few months' service as engineering inspector with the Metropolitan Water Board of Boston on the construction of the Wachusett Aqueduct, he entered the service of the Proprietors of Locks and Canals, Lowell, Mass., in January, 1898, where he was engaged on engineering work for five years. In 1903 he was principal assistant engineer of the Commission on Additional Water Supply of New York city, and in 1904 was assistant engineer with the New York state engineer in charge of state road construction. After a year and one-half as assistant engineer in the topographical borough, Borough of Queens, New York city, he entered the service of the Board of Water Supply in April, 1906, where he is at present in charge of the department office of the southern aqueduct department at White Plains.—James S. Wadsworth is at present a student at the Massachusetts College of Osteopathy, Cambridge, Mass. For about a year and a half after leaving the Institute he was with the General Electric Company at Lynn and Schenectady. In 1893 he entered the service of the New England Telephone and Telegraph Company, where he remained fifteen years in various capacities, as inspector, special inspector, chief clerk of the general superintendent's office at Lowell, manager of the Manchester (N.H.) exchange, travelling foreman on switchboard construction and electrician in the engineering department. Wadsworth is married, and lives at 187 Highland Avenue, Sonerville, Mass.—George Benton Smith entered the ministry of the Methodist Episcopal Church in 1907, and is settled at present at Yalesville, Conn. After leaving the Institute, he entered Wesleyan University, Middletown, Conn., in 1891, graduating in 1895. During the two subsequent years he was state college secretary of the Y. M. C. A. of Illinois; and in 1897, after his marriage to Miss Bertha S. Dates, he went to Madras, India, where he served as general secretary of the Y. M. C. A. there until his return to the United States in 1904.—Myron H. Hunt was elected a fellow of the American Institute of Architects at the annual

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meeting held in Washington, Dec. 17, 1908. Technology is well represented among the officers of American Institute of Architects, Cass Gilbert ('80), being president and four other Technology men being numbered among the fellows of that Institute.—Miss Clara A. Bliss has been professor of chemistry at Wells College at Aurora, N.Y., since 1894.—A. F. Bemis has recently been made president of the Bemis Brother Bag Company, located at 89 State Street, Boston, Mass.—Burt L. Fenner is a member of the firm of McKim, Mead & White, architects, 160 5th Avenue, New York, N.Y. He has been with this firm continuously since leaving the Institute in 1891, and was admitted to partnership Jan. 1, 1906. Fenner is married, and lives at 304 West 82d Street, New York.—Richard E. Meserve is following the profession of irrigation engineer, and is located at 535 Main Street, Grand Junction, Col. He writes:—

After leaving Tech, I came west to grow up, and found architecture unsuited to the state of civilization in these parts. I then worked into the two staples of the earth, land and water, and since the national recognition of this great western problem—irrigation—I have found my calling.

I have been engaged for several months on an irrigation project under the "Carey Act," for which Congress has within the past few days passed an act opening this former Ute Indian reservation to the provisions of that act. Great is Roosevelt! May his shadow increase!

—At the annual dinner of the Alumni Association, January 14, twenty-five members of the class were present, as follows: J. C. Abbot, Barnes, Baxter, Bemis, E. B. Carney, Crosby, Darrow, Dawes, C. B. Davis, Densmore, Edwards, Fabyan, Fay, W. S. Forbes, Glidden, Keith, Keyes, Latham, Morss, Parks, Phinney, F. D. Smith, Soley, Taintor, J. F. White. On the day following the alumni dinner an enjoyable luncheon was held at the Boston City Club, with nineteen men in attendance. Suitable gifts were presented to Henry Morss and J. B. Baxter, whose engagements had been announced at the dinner the night before. Those present at the luncheon were: J. C. Abbot, Baxter, Bemis, Bremer, E. B. Carney, Dawes, Darrow, Fay, Glidden, Keith, Keyes, Morss, Parks, Phinney, E. S. Page, Pickert, Soley, Taintor and Wingate.

1894.

PROF. S. C. PRESCOTT, *Sec.*, Mass. Inst. of Tech., Boston, Mass.

Phelan has just recovered from an attack of scarlet fever which kept him away from his work at the Institute for several weeks.

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Fortunately there were no bad after-effects, and he is now looking in first-rate condition again. In addition to the congratulations on his speedy recovery, he and Mrs. Phelan are receiving congratulations on the birth of a son, Robert, on January 1.—McKibben visited the Institute for a short time early in February. As head of the Department of Civil Engineering at Lehigh, he is making a very successful record.—H. R. Batcheller is also one of the '94 men who get back to Boston from time to time to use the libraries and laboratories in professional investigations. "Batch" has recently been in the city for a few weeks on this and other business matters.—The class was well represented at the alumni dinner, about sixteen of its members being present to greet the new President. As the secretary was at that time on the way to Florida, he did not attend, although it was with sincere regret that such an important and interesting occasion was necessarily missed. The secretary can recommend cruising among the Florida Keys to any who are fortunate enough to be able to get away in midwinter for a few weeks of rest. He spent about two weeks in this way with Mr. and Mrs. W. L. Underwood. Mr. Underwood is well known as a naturalist and photographer of wild life, therefore an experience of this sort is a chance of a lifetime. Taking a small cruising boat at Miami, we visited the various fishing grounds, keys and inlets, had an opportunity to see the construction of the Key West extension of the East Coast Railway, explored the region around Cape Sable, and entered some of the many brackish lakes where waterfowl congregate in immense flocks. Following up the west coast to the Ten Thousand Islands, we saw the first attempts to utilize the mangrove, both black and red, which in that region attains a considerable size. The wood is very hard, heavier than lignum-vitæ, and is finding some use in cabinet work and as a fine flooring and finish wood. At the mill, where operations are just beginning, we were told that the supply was good for probably fifty years. Not the least interesting feature of the trip was a visit to the Everglades and a chance to see the work now being carried on in reclaiming those vast watery plains. Ex-Governor Broward, whom we met at Fort Lauderdale, and who is the father of the plan for reclamation, told us that it is probable that about three million acres of land of exceptional fertility can be recovered in this way. The project is certainly of great interest.—H. S. Reynolds is with the Ludlow Manufacturing Company of Ludlow, Mass.—There was a small gathering of '94 men at the Technology Club on Saturday evening, March 20, to consider plans for June. Another will be held on Friday, April 9. All the fellows should plan to be on hand for the Reunion.

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1895.

CHARLES H. PARKER, *Sec.*, 39 Boylston Street, Boston, Mass.

Captain Azel Ames has resigned his position as signal engineer electric zone, New York Central & Hudson River, and is connected with the Kerite Insulated Wire and Cable Company, New York. His office is 30 Church Street, New York city. The following paragraph, taken from an account of him in the *Railroad Age Gazette* of Dec. 11, 1908, is truly illustrative of him.

He is a member of the American Railway Engineering and Maintenance of Way Association and the Railway Signal Association, the Transportation Club and the Army and Navy Club of New York and the Army and Navy Club of Washington. He is also second lieutenant, Coast Artillery Corps, National Guard of New York. It is not saying too much to mention that Captain Ames has the essentials, thoroughness and an unimpeachable character. Combined with these qualities, his restless energy should be of great value in his new work.

—A small dinner of '95 men was held at the Tech Club, Boston, on Jan. 18, 1909, to discuss plans for the All-Technology Reunion in June. President F. T. Miller was in the chair; following men present: W. S. Chase, E. H. Clapp, J. Williamson Cooke, W. E. Davis, Jr., E. L. Hurd, H. D. Jackson, J. L. Newell, C. H. Parker, W. D. Parker, G. A. Rockwell, E. A. Tucker, R. J. Williams, W. H. Winkley. Newell, Rockwell, Hurd and Clapp were appointed a committee to plan an outing for June 5 and 6, the Saturday and Sunday previous to the All-Technology Reunion. The idea is to leave Friday, June 4, for some seaside resort which is not too public, where we can have boating, fishing, swimming, tennis, golf, baseball, etc. Committees on attendance have been appointed from each course to drum up all the delinquents who can come, but wouldn't unless urged sufficiently.—Sias and George Sheppard were appointed a committee on stunts at Nantasket, on auto trip, at Pop Concert, etc. "Nuf sed."—The following changes of address have been received: John Winfield Cooke, Klamath Falls, Ore.—W. A. Drake, The Bourse, Philadelphia, Pa.—George E. Howe, Wauseon, Ohio.—Gerard H. Matthes, care of Central Colorado Power Company, Denver, Col.—Walter C. Powers, Long Hill, Springfield, Mass.

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1896.

PROF. CHARLES E. LOCKE, *Sec.*, Mass. Inst. of Tech., Boston, Mass.

Mr. Willard H. Colman has sent a copy of his pamphlet upon the chiropractic, a new science which was discovered by Dr. D. D. Palmer about thirteen years ago. It has been found that many organic affections are due to displaced vertebræ of the spinal column, which cause pressure upon the nerves. The chiropractic practitioner undertakes to restore such displaced vertebræ to their normal position. Mr. Colman is now acting as a chiropractor at 1319 State Street, La Crosse, Wis., and the pamphlet reads very interestingly.—Ben Hurd has followed the lead of Rockwell, and has donated a cup to be competed for annually at the spring class meet in the 120-yard high hurdle event. This cup is to be held permanently by its winner, and a new cup will be supplied each year.—John Manahan at last accounts was up at Milan, near Berlin, N.H., looking after the power end of the installation of a concentrating mill on an old pyrite mine located at that place.—Butler Ames is still figuring prominently at Washington. He was strongly interested in pushing the bill for Appalachian Forest Reserves which went down to defeat during the last days of Congress. He is active in the pursuit of his experiments upon aërial navigation.—Mortimer A. Sears has gone to Denver, Col., to take the position of inspector in the Land Department. For many years the Land Department has not investigated fully the land which had been taken up under the various acts of Congress, but now such land is carefully investigated before it is sold, to determine whether it is mineral land, homestead land, coal land, desert land, etc. To determine these points satisfactorily, they have come to employ technically trained men, and Sears thus comes to be a special agent with the title of mineral inspector. His district covers the state of Colorado and parts of Nevada.—George E. Stratton was in town about February 1, looking up his old friends. He is now with the United States Reclamation Service, with address at Washington.—The Class of '96 turned out in good shape at the annual alumni dinner at Horticultural Hall in January. The following were present: Pingree, Conant, Daniels, Hersey, Sanderson, Tucker, Lythgoe, Hopkins, Defren, Hayward, W. Hedge, Locke, Harkness, Hurd, Rockwell, H. W. Brown, Maclachlan, Lockwood, Root. Hurd came on from New York, Root from Pittsfield, Pingree from Providence, Tucker from Lynn. The others were all located close by. All agreed that we contributed our share of noise.—On December 30

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last at Granville, N.Y., occurred the marriage of Dr. William D. Coolidge, professor of chemistry of the research laboratory of the General Electric Company and assistant director in the laboratory, to Miss Ethel Westcott Woodard, eldest daughter of Mr. and Mrs. D. D. Woodard, of Granville. The bride studied in Germany at the Kadelbach Seminary and University of Berlin for three years. After her return she taught German in the Granville High School, and for the past three years has been teacher of modern languages in the Schenectady High School. The wedding was a family one, and after the dinner Dr. and Mrs. Coolidge left immediately on their wedding trip.—J. E. Woodwell, of the firm of L. B. Marks and J. E. Woodwell, New York city, has been retained by Messrs. McKim, Mead & White, architects, as consulting engineer for the entire mechanical and electrical equipment, including the heating and ventilation, electric lighting and power, mail handling devices, etc., of the new United States post-office to be erected at the Pennsylvania Terminal Station in New York city. The cost of this installation will be upwards of $500,000.—The address of Dr. J. Arnold Rockwell, president of the Boston Homœopathic Society, at the annual meeting in Jacob Sleeper Hall early in January, considered Hahnemann's Organon in the Light of Recent Scientific Discoveries and Current Medical Practice. After explaining the principles of homœopathy, Dr. Rockwell took up the experiments of Professor J. C. Bose, of Calcutta University, India, who had shown that the principles of homœopathy are verified in every detail in plant life. Dr. Rockwell made a strong plea for a thorough test of the homœopathic principle of medicine in comparison with the allopathic, and proposed that the test be made side by side upon selected patients from the Boston Floating Hospital. His plan proposed that a number of the little patients, of the same general condition as far as possible, be divided into three groups, one of which would be given expectant treatment, the second allopathic treatment, and the third homœopathic treatment. Dr. Rockwell's address was well received, and his proposition was felt to be worthy of meritorious consideration.—Senator E. C. Hultman, of Quincy, has found the demands of public life so exacting that he is living in Boston this winter at Hemenway Chambers. Senator Hultman went into the fight as a champion of purity in politics, and won out only after a hard struggle. He is putting every minute of his time upon his duties as a legislator. He is chairman of the Committee on Public Lighting and a member of the Committees on Water Front and Taxation. The Committee on Water Front is a specially important one at the present time, because it has to do with the

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development of the shore line of Massachusetts. Senator Hultman recently gave a talk in Quincy upon the duties of a legislator, and explained the multitude of demands that come for a man who is in public life.—E. S. Mansfield made a trip to Washington over the inauguration, combining business and pleasure. He was able to see some of the Tech men while there.—The announcement was made of the engagement of Miss Laura Toppan, of Cambridge, to Ben Hurd, of New York city.—Bradley Stoughton has been spending a few days in Boston and Cambridge. He delivered an address before the New England Foundrymen's Association. He has severed his connection with Columbia University and with Professor Howe, and is at present acting as consulting metallurgical engineer, with offices in New York city, Philadelphia and Pittsburg.

1897.

JOHN ARTHUR COLLINS, *Sec.*, 67 Thorndyke Street, Lawrence, Mass.

The engagement is announced of Miss Marion Walsh, of Newport, R.I., to Earl Potter Mason, of the Newport Engineering Works. They will be married at Easter.—The secretary has just heard for the first time since the class graduated from one of the members who was with us in the first years of the course. Louis F. Buff left the Institute to go with the New York, New Haven & Hartford Railroad as an assistant engineer in connection with the elevation of the tracks on the Providence division. After three years, he spent three additional ones at the Lawrence Scientific School. In 1899 he went into business with the firm of Buff & Buff Manufacturing Company, of Jamaica Plain, makers of precision surveying instruments. This company now have a weekly output of twenty instruments, and Mr. Buff is secretary and assistant manager. He was married in 1907 to Miss L. S. Frost. They have one child, Laura Edith, born September, 1908.—Proctor L. Dougherty (VI.), has been made inspector of electric light plants *vice* J. E. Woodwell ('96), and has charge of all electric plants in the United States that are under the control of the Treasury Department.—Walter E. Spear (XI.), is now chief engineer of the department of water supply, Borough of Brooklyn, having assumed the position on January 1 of this year. For the previous three years he had been in charge of the Long Island work of the board of water supply.—James M. Brown (II.), formerly with the Casey-Hedges Company of Chattanooga, Tenn., is now superintendent

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of the Lyons Boiler Works of De Pere, Wis. They are the makers of a new patented boiler, which, Brown says, is to be much talked of in the near future.—The secretary sent out a call to all '97 men in the neighborhood of Boston to meet at the Technology Club on Tuesday evening, February 23, to talk over the plans for the coming reunion. A few men, Bradlee, Carty, Hopkins, Breed, Worcester, Cowles, Humphreys and Fuller, appeared. The majority seemed to favor an informal dinner on Monday evening previous to the smoker at one of the foreign restaurants down town; then on Tuesday, with the ladies, meet as a class at the dinner down at Bass Point. We would have all the afternoon before us then, and a jolly reunion could be had. After more definite arrangements are made by the General Reunion Committee, a special circular will be sent out, detailing any further plans that may have been made.—In the *Textile Manufacturers' Journal* for January, 1909, there is an article by Eames (VI.), on the "Effect of Textile Schools on Textiles." Mr. Eames is principal of the Lowell Textile School, and the article lists the positions held by nearly two hundred of the graduates of this school, and also gives an idea of the salaries received.

1898.

PROF. C.-E. A. WINSLOW, *Sec.*, 157 Walnut Street, Brookline, Mass.

The second informal reunion for the season was held at the Trinity Court Bowling Alleys on the evening of February 16. Chase, Coburn, Coombs, Cornell, Curtis, Dodd, Edgerley, Perley, Robinson, Russ, Stillings, Wadsworth, Wing and Winslow were present. In an inter-course competition, Course VI. won by a large score, though Course IV. made the finest appearance on the alleys.—Curtis has moved his law office to 84 State Street.—Humphrey sailed for Naples on the "Canopic," February 13.—G. L. Smith has opened an office for the practice of architecture at 22 Congress Street, Boston.—I. M. Chace, Jr., has come east from Tucson for a time, and his address is now 70 Borden Street, New Bedford.—Fleisher has moved from 67 Highland Street to 96 Brunswick Street, Roxbury.

1899.

HERVEY J. SKINNER, *Sec.*, 93 Broad Street, Boston.

Phelps has recently completed a very important investigation on the pollution of streams by the waste from sulphite pulp mills.

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The work was done at the Sanitary Research Laboratory and Sewage Experiment Station at the Institute, and embodies a study of the possible remedies. The results are published in Water Supply Paper No. 226 by the United States Geological Survey.—Sherrill has returned to his duties at the Institute after a two years' leave of absence.—Phalen has received the degree of Doctor of Philosophy from George Washington University. The subject of his thesis was "Economic Geology of the Kenova Quadrangle in Kentucky, Ohio and West Virginia."—The following changes of addresses have been received: T. W. Bailey, 220½ West Main Street, Oklahoma City, Okla.—H. M. Case, manager Light, Heat and Power Company, Connersville, Ind.—C. D. Drew, care of J. G. White & Co., Limited, Chimbote, Peru, S.A.——T. J. Driscoll, 2 Parker Hill Terrace, Boston, Mass.—J. B. Ellery, Annisquam, Mass.—A. W. Grosvenor, 469 State Street, Flushing, N.Y.—Russell Hall, South Windham, Me.—E. W. Hammond, 400 Plymouth Avenue, Rochester, N.Y.—W. A. Hazard, 948, 115 Adams Street, Chicago, Ill.—H. P. James, Cutler-Hammer Manufacturing Company, Milwaukee, Wis.—F. L. Lacaff, 405 North Washington Street, Nevada, Mo.—John Magee, 1128 First National Bank Building, Chicago, Ill.—W. H. Mandeville, 223 North 1st Street, Olean, N.Y.—C. L. Morgan, 378 Wabash Avenue, Chicago, Ill.—W. R. Parker, 74 Meridian Street, Melrose, Mass.—G. H. Priest, 147 Milk Street, Boston, Mass.—A. W. Proctor, 41 Park Row, New York, N.Y.—L. Rich, 4 Glenwood Boulevard, Schenectady, N.Y.—H. Sawyer, Boisé, Idaho.—H. H. Schmidt, 19 Municipal Building, Brooklyn, N.Y.—F. R. Sites, 325 C Street, Oakmont, Pa.—R. W. Stebbins, R. F. D. No. 1, Hood River, Ore.—G. B. Street, Rye Valley, Ore.—F. Tappan, Central Building, Seattle, Wash.—G. S. Tiffany, Fort Logan, Col.—R. M. Vining, 15 Railroad Avenue, Beverly, Mass.—F. A. Watkins, 24 Ruthven Place, Summit, N.J.

1900.

H. E. Osgood, *Sec.*, Room F, Chamber of Commerce, Boston, Mass.

On Monday evening, March 1, there was a meeting of the '00 men in the Boston district at the Tech Union. Those who came together to dine informally before the meeting were Ziegler, Dimock, Weeden, Gibbs, Kattelle, E. F. Brigham, E. G. Allen, Bugbee, Hunt, P. R. Brooks, Wastcoat, Bowditch, Jennings and Neall. Later H. E. Osgood, Fitch, Hodsdon, Brown, Cutting, Russell,

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Beekman, Warren and C. A. Richardson dropped in. There was a very jolly reunion and plenty of experiences to exchange, especially as a number of the men had not seen each other for nine years or more. The meeting was furthermore graced by two prospective divines, Dimock, Newton Theological Seminary, and Gibbs, Episcopal Theological School, Cambridge. During a part of the dinner Wastcoat was found subduedly studying these "engineers of the art of flying," but managed to recover his usual gayety, nevertheless. The fellows tried over some of the songs which the Alumni Association has had prepared for the Second Tech Reunion. Gibbs played the accompaniments with his usual elegance and spirit, and the effect of hearty co-operation, if not of perfect singing, was truly impressive. It is quite an idea for the 1900 men to be found singing together. I. W. Litchfield ('85), who is giving a great deal of time to the plans for the reunion, dropped in and interested the men mightily by an informal talk on his recent trip to various cities in company with President Maclaurin and other matters of vital interest in connection with Technology. The plans which he outlined for the coming reunion in June showed that nothing was to be left undone to make the occasion a memorable one, and they will make every Tech man who comes, even from the most distant point, feel surely repaid. Some of the proposed features suggested a comparison with some of Thompson & Dundy's Hippodrome stunts. Neall then explained that a self-constituted committee, which might be called the Decennial or Reunion Committee, consisting of Bowditch, P. R. Brooks, Gibbs, Neall, Wastcoat and Ziegler, had been formed to assist the secretary with the extra work incident to getting out a new directory, also to make the arrangements for our decennial, which is to be held this year instead of next, in order to enable the men to attend both the reunion and decennial without making two trips to Boston. As a preliminary measure, every member of the class has been communicated with in order to get information regarding the different members of the class. This information will be used in the class directory, and part of it you will find following. It is hoped that every member of the class will assist this committee by doing his part, and furnish the information which will be requested from time to time.—C. A. Richardson announces that he was married last fall, and is now living in Somerville. He is at present working on the plans of the Boston Elevated Railway Company for the new tunnel which is to connect Cambridge and Boston. Before coming east, he was connected with the survey preliminary to laying out the road-bed of the Grand Trunk Pacific, which is now being rapidly constructed.

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He states that, owing to the absence of sharp curves and to the fact that the steepest grade is not over four-tenths of one per cent., the road-bed will be finer than that of any transcontinental railroad. —After having been away from Boston since finishing at the Institute, Ziegler has returned to Boston to become treasurer and general manager of the New England Dairy Supply Company. One of the things which is sold by this company which is of popular interest is the milking machine. Ziegler describes with considerable effect some of the public appearances which he has made at country fairs. Without detracting from his own ability as a raconteur, he really needs a Kipling to do him justice. He was married in the latter part of 1904 to Miss Mabel Hale (Radcliffe, 1902).—From the standpoint of general interest, one of the most interesting letters we have received from the class was that received from Ford, who writes:—

Since leaving Tech in 1901 after a post-graduate year, I have spent two years in Peabody & Stearns' office in Boston, three months in Guy Lowell's office, then four years in Paris, graduating in architecture from the École des Beaux-Arts. During this time I travelled the better part of a year, all told, in Italy, Switzerland, France, Belgium, England, etc. I have been back in New York two years,—three months in the office of Hale & Rogers and a year and nine months with George B. Post & Sons, architects, where I am now chief designer. A year ago this last summer I went as a delegate to the Eighth International Housing Congress in London.

My chief interest in life is just along this line; that is, architecture as applied to the problem of housing of the working people and as applied to the social questions in general. To that end I have been living in model tenements and social settlement houses ever since my return from abroad.

It is a vital subject and an intensely interesting one, one that is becoming more and more urgent every day.

Yet, strangely enough, no architect in America has ever taken it up in a broad and humanitarian way. Why, the possibilities of improving living conditions, be it in the home, the shop, the factory, the school, the bath, the Institute, the playground, or whatever it may be, are simply immense. A great deal has been done in an unco-ordinated, random way from a purely scientific standpoint, but you will look almost in vain for architectural training as applied to these problems where you may detect real heart and sympathy in the work.

The field is boundless. A spirit of philanthropy in the broadest sense is spreading rapidly in America. It must find an outlet in bettering the condition of those who are powerless to help themselves, and it must have men of the requisite training who can logically and sympathetically bring about concrete results,—results which will make for a happier, nobler and better life among our fellow-beings.

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To this end I have published some twenty-five or thirty articles in architectural magazines, and am now spreading out into the general magazines.

I have been and am identified with splendid work of the Committee on Congestion of Population in New York city under Benjamin C. Marsh, and I know and am in communication with many of the men most prominent in this field at home and throughout Europe, for Europe is far ahead of us here.

I have been and am collecting a great deal of material along these lines for the Museum of Social Ethics at Harvard University, far and away the most comprehensive social museum in the world, thanks to the earnestness and zeal of Professor Francis G. Peabody.

The deeper into the subject I get, the more fascinating it becomes. The possibilities are infinite, and within this generation many of them are bound to become actualities.

He apologizes for writing at such length, but not only is there no occasion for it, but we wish more of the fellows would do likewise.—The reference to Gibbs will surely interest all of his old friends. His present work is a gradual development, and is thought by him to be much helped by the engineering training which he has had. The first two years after graduation Gibbs spent with the Brown Hoisting Machine Company in Cleveland. A severe attack of typhoid fever obliged him to abandon the work and return east to convalesce. His later engagement was for a while in western Massachusetts at Greenfield, and then at United States engineer's office at Newport, R.I., and lastly two and a half years with the Eastern Concrete Construction Company on inside and outside work. There is much to speculate on in this development, and there is no doubt that the idea of an engineer as a rector would suggest a bang-up result.—Those of the 1900 men who took part in the Walker Club theatricals are amused to find themselves well represented among the Boston men. For example, Gibbs kept up the traditions by playing Mr. Golightly in "Lend me Five Shillings" and Marmaduke Woodcock in "Woodcock's Little Game."—Howe, who took such an important part in our days at Tech, writes as follows:—

You have asked of me a rather difficult as well as embarrassing thing—embarrassing in that it might appear as though nothing more serious had occupied my time than play acting, also difficult because the names of both plays and parts have slipped my mind.

The year after graduating in Frankfurt-am-Main, Germany, the part of a young and lovely (?) but misjudged woman was given me,—my only appearance on foreign boards. Then at intervals I have been different characters, such as Christopher, a mollycoddle (no acting needed), straight male parts requiring delicate love-making (quite a few of these), a discharged

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Irishman, a wheezy old country fellow, Simon Pinner, who loved to "set and whittle," then back to a sweet old Vermont mother, who could both knit and darn [Howe's writing made this look like dam]. This winter small male parts in "The Ulster," "A Regiment for Two" and Mr. Cox of "Box and Cox" have been my share in entertaining friends.

—Neall witnessed the last-mentioned performance, and reports that Howe's acting was fully up to Walker Club standards. He also said that several weeks before the performance Howe requested the loan of a rather loud pair of plaid trousers which he happened to be wearing at that time. It took some presence of mind to guess for what they were intended. The fact that they have lent support to the drama, and that they are now about to be laid on the shelf, is a great gratification to all Neall's friends.—S. B. Miller recently dropped into town on his way back to Marquette, Mich., after attending the superintendents' meeting in New York of the various E. I. du Pont de Nemours Powder Companies. Miller is assistant superintendent of the Marquette plant, and reports interesting work and a happy life. He is not married yet, but his photographs of camping parties, skating affairs and other attractive outdoor features with which northern Michigan abounds indicate that he is not wanting in fair friends.—Ingersoll Bowditch entertained the special '00 committee at dinner at the Puritan Club on February 15.—E. F. Brigham on March 5 announced his engagement to Miss Phyllis S. Lindsey, of Santa Monica, Cal. Since graduation Brigham has become quite a horseman, and is often seen riding through the Fens.—Kattelle was married to Miss Nellie Feagles, of Toledo, Ohio, on Oct. 1, 1908, and should be glad to see all his old friends at 205 Grove Street, Auburndale, Mass.—A. B. Briggs writes:—

I trust that I may find time in the future to get interested in a more substantial manner than mere approbation in our class affairs, and I think I see it ahead. Till now I have had all that I could swing to, and while of course, I still have it in a way, I will not have perhaps to do so much myself, but direct the efforts of others more.

Briggs is in the office of chief engineer, Boston & Albany Railroad, Boston.—Robert H. Clary was recently in Boston, and left his address as Hotel Somerset, 47th Street, New York city.—D. E. Maxfield writes from Philadelphia as follows:—

The most important news in my family is the arrival of a small boy, now eight months old.

As far as business goes, my work has kept me hustling in spite of the dull times. I have charge of the construction department of D'Olier Engineering Company, who do a considerable amount of government and munici-

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pal power plant and pumping plant work. We are sending two 2,400 horse-power boiler plants to the Isthmus, some 1,700 tons of material altogether. We have contracts in British Columbia, Colorado, California, Texas, Illinois and a considerable amount of work nearer home. We do a considerable business in centrifugal pumps.

—S. D. Graff, after eight years' connection with the Westinghouse Machine Company, is now with the Simplex Electrical Company, 110 State Street, as a member of their sales organization. Graff has been living some five years in Boston, and is much devoted to sport, business permitting. This takes the form of boating in the summer time and fencing, boxing and skating in the winter. Any one wanting engagements for a bout to celebrate the reunion please telegraph.—Emil F. Vogel was recently in Boston on a vacation. He is now with the Lackawanna Steel Company as master mechanic of the coke department of the West Seneca plant, Buffalo. Vogel looks very well, notwithstanding the heavy demands that are often made on his time. He says his office hours are likely to be from 6 A.M. to 7 P.M., with a twenty-four hour turn thrown in for a fillip. One can easily imagine the importance of this work, however, since steel plant operation consists of such intimately connected departmental activities. For two years after graduation Vogel was connected with the Case Manufacturing Company on hoisting machinery. This he followed up by six months with Wellman-Seaver-Morgan Company of Cleveland and six months with the M. H. Treadwell Company of Lebanon, Pa.—C. V. Merrick writes as follows:—

I note that the class of 1900 is preparing to do a stunt at the 1909 reunion. I am not certain how things will work, and whether it will be possible for me to be at the reunion; but, if there is to be a real stunt, business be hanged. I will come, and make sure our behavior is kept up to its previous high-pressure standard. I am now acting as supervising architect on the New York State Education Building ($4,500,000), a structure which is to house the state museum, library and education interests. These interests are now housed in the state capitol and scattered about Albany, and it is expected that greater facilities and better education for the children of New York state will be possible where an organization, executive and board of regents are to be housed under one roof.

Previous to starting this work with Messrs. Palmer & Hornbostel, I represented Mr. Francis H. Kimball, architect, during the erection of the City Investing Building (open to the public in May, 1908). If you have been in New York recently, you will remember the white thirty-two-story sky-scraper just north of the Singer tower, located at the corner of Cortland Street and Broadway.

Previous to the erection of the City Investing Building I represented the

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same architect on the Brunswick Site Building, corner of 26th Street and 5th Avenue, and before that I was with Messrs. Trowbridge & Livingston for five years, erecting while with them the Salomon house, corner of 83d Street and 5th Avenue, the mansion for Mr. Henry Phipps, corner of 86th Street and 5th Avenue, house for Mr. Hawley T. Proctor, 11 East 52d Street, and finally the Altman store at the corner of 5th Avenue and 34th Street.

I have one child, a boy, Alden Chester Merrick, now about two years and a half old. Mrs. Merrick and I took a trip this winter to the south, and on the way stopped off at Atlanta, and saw Mr. Harry Leslie Walker, commonly known as Hec. He still wears that same angel face, but is doing some good architecture despite his facial characteristics. Unfortunately, I was unable to see Mr. Collier while at Atlanta, as he was away at a wedding.

Keep me posted as to the stunts proposed for the 1909 reunion, and let me know how many of the old gang are going to be back.

—Wastcoat sends in the following from H. W. Oxnard:—

I have run across surprisingly few Tech men in my travels thus far. While camping on a mountain top in southern Mexico, I discussed the merger with a young Harvard man whom I found there in charge of a mine, and through Mexico and the north-west I knew men from Berkeley and the western state universities, but not a Tech man in all that region.

I am always glad to read the class news in the REVIEW, and will not forget to contribute when I have anything of interest to write.

—W. R. McAusland on March 6 writes Wastcoat as follows:—

I am doing newspaper work in Chicago and leading a simple and single life. There is an eminent live M. I T. alumni organization here, but I don't encounter any 1900 men. Apparently, my classmates do not concur in my opinion that this is a charming place of abode. I hope to hear from "1900" again, and should be glad to know when any portion of the class is in Chicago.

—This last fall Wastcoat came back to Boston after severing his connection and interest in the Ellis-Chalmers Company as treasurer. He is now president of the Harmon, Wastcoat, Dahl Company of Boston, which firm controls five paint and hardware stores, and is distributor for the Matheson Lead Company and F. O. Peirce Company of New York. Last month he was elected vice-president of the Chadeloid Chemical Company of New York, which company owns about sixty patents on paint and varnish removers, and has as licensees all the large paint concerns of this country, and is known in the trade as the Remover Trust. We extend our congratulations to Wastcoat, and also express our satisfaction that this important corporate influence is now in our midst.—E. H. Davis writes from Purdue University that—

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It is a good thing that the class is about to emerge from its hypnotic coma. In another year it would be ten years old, and should go into long trousers. We should publish a book, and give our members a chance for a literary gloat over their notorosity. I, for example, have become a member of the North-western Alumni Association, and have personal police escort every time I go to Chicago.

This is not all by a long shot, but it is reserved for publication in full in the proposed class flyer. It is evident that, although his name is next to the top in the department of history and economics, he is the same Davis as of yore.

1901.

R. L. WILLIAMS, *Sec.*, 30 Waban Hill Road, Chestnut Hill, Mass.

Frederic G. Clapp recently delivered a lecture before the Academy of Science and Art at Pittsburg, his subject being "Influence of Geological Structure on the Occurrence of Oil and Gas." Subdivisions of the lecture were "statement of the 'anticlinal theory'; limitations of this theory, and history of the controversy as to its value; different geological conditions of the different fields; proof of the value of geology in predicting the value and extent of the fields; and conditions of accumulation of oil and gas."—Allen B. McDaniel is professor of civil engineering at the University of South Dakota.—F. H. Sexton is president of the Nova Scotia Technical College, which offers courses in mining, civil, electrical and mechanical engineering. He is married, and has three children.—D. L. Ordway is with the National Carbon Company of Cleveland, Ohio, where he is a research chemist in the battery department.—Charles J. Bacon as steam expert for the Illinois Steel Company has general supervision of their power plants and experimental engineering.—Robert B. Norton is an assistant electrical engineer on the electrical equipment of the Hudson & Manhattan Railroad (McAdoo Tunnels).—Alton P. Trufant has been elected highway surveyor for Whitman, Mass., in which position he will have control of repairs and maintenance of highways, sidewalks and sewerage systems. He is in business for himself as a civil engineer.—Francis E. Cady has left Washington, and is now in the physical laboratory of the National Electric Lamp Association of Cleveland, Ohio. He is engaged in research work with the director of the laboratory, covering the field of optics and more particularly radiation work.—Angus A. McInnes is engineer for the Metropolitan Construction Com-

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pany, whose specialty is concrete construction.—Philip L. Buxton travelled in Europe in the winter of 1908. He is secretary and assistant treasurer of the E. Buxton & Son Company.—E. S. Foljambe holds the position as managing editor for the *Cycle and Automobile Trade Journal* of Philadelphia. Outside of his regular work he has made smoke experiments with a two-cycle glass cylinder engine. He has also experimented with knock-down, silk, tailess, advertising kites.

1902.

F. H. HUNTER, *Sec.*, 75 Park Street, West Roxbury, Mass.

The class was represented at the alumni banquet on January 14 by a much larger delegation than in previous years, the following being present: President Sawyer, Robinson, Whittet, Farmer, Ritchie, Everett, Wemyss, Vaughan, Thurston, Mardick, Westcott, Upham and Hunter. Since that date there has been no gathering of the class up to the present writing, but notices are out in Boston for a bowling party on March 25, and a dinner is planned in New York at an early date. Boston has lost for a season its vice-president, Harry Hooker, he having gone to Salt Lake City to oversee the electrification of railway lines controlled by the Harris interests. His address is 157 North State Street. Salt Lake is becoming quite a centre for '02 men. Stimson is now there with the Rocky Mountain Bell Telephone Company, and Mendenhall has returned thither from Ely, and is again located with the Utah Light and Railway Company. Other classmates have been on the move.—Manley is at 445 Highland Avenue, Bowlder, Col.—Waterman is with the Warren County Lumber Company, Williamsport, Ind.—W. V. Morse has returned to the United States, and is with the S. H. Supply Company, dealers in mining supplies, 2042 Summer Street, Denver, Col.—Seabury has been transferred from Kingston to the central office of the Board of Water Supply at 299 Broadway (Room 1419), where he is assistant to the chief engineer. —Galaher is again with Stone & Webster, and Shedd is back with J. R. Worcester & Co., 79 Milk Street, Boston.—McBurney reports his address as University Club, 5th Avenue and 54th Street, New York City.— McNaughton, Raymond and Lawrence, of Portland, Ore., are the architects for Whitman College at Walla-Walla, Wash. McNaughton's son, Boyd McNaughton, was reported in the last REVIEW, but the date given for his birth

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was incorrect. Oct. 6, 1908, is the day that should have been mentioned.—Robert Temple Clapp arrived at the home of Clifford B. Clapp on Oct. 3, 1908, while Elise Erskine Stillings, who was born on Jan. 16, 1909, is the youngest member of the class reported to date.—The record in this line, however, falls to Lewis, whose fourth daughter, Patricia, born on Dec. 24, 1907, has but recently been reported at class headquarters.—Chalifoux was married in Birmingham, Ala., last January, but unfortunately the particulars have not yet reached your secretary. Others are intending to join the majority soon, for Joseph Philbrick's engagement to Miss Clara B. Smith, of Riverside, Ill., is announced; and Brainerd is engaged to Miss Mildred Lighthipe, of Orange, N.J.—Other class items: "Dimmy" Bartlett is now located in New York, his residence being 1285 Dean Street, Brooklyn.—Mrs. May (Best) Sexton's address is Mount Pleasant, Halifax, N.S.—C. W. Adams is with the American Radiator Company, 1342 Arch Street, Philadelphia.—Kimball's address is Glen Osborne, Pa.—McCarthy is with the Potosi Zinc Company, Las Vegas, Mex.—A. T. Nelson is at Portland, Ore., his headquarters being 1120 Board of Trade Building.—Bayard William Mendenhall, Jr., born Dec. 18, 1908, on the thirtieth birthday of his father.—Otto C. Thanisch died on the 24th of March.

1904.

R. A. WENTWORTH, *Sec.*, Saylesville, R.I.

M. L. EMERSON, *Res. Sec.*, 161 Devonshire Street, Boston, Mass.

H. W. Stevens was in charge of an '04 dinner at the Union on February 24. Although it was a terrible night, there were fourteen men out. Of course the June reunion was the principal subject discussed. The reunion committee broached several plans, which were considered in detail, the men being enthusiastic in their support of the committee's work. It was thought inadvisable to attempt any extension of the reunion program in the shape of an excursion or camping trip. The distinctive features which have been developed by our reunion committee will be explained in a notice to be sent to all men who have ever been of 1904. This notice will request certain statistics and certain further assistance, which, I hope will be promptly and cheerfully furnished. It must be remembered that the majority of our classmates seldom see other '04 men, that their Technology loyalty and class spirit are likely to be dulled by such isolation. We are asking you to arouse this spirit by writing to the men whom you can influence. This is your op-

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portunity to boom the reunion and to do your part in making the '04 representation worthy of our class.—The Boston crowd will have another dinner early in April.—After nearly three years at Holyoke, Mass., Hiller has returned to Boston as an instructor in the Mechanical Engineering Laboratories.—Llewellyn Bixby, writing from Long Beach, Cal., says:—

I was up in Seattle in January, and tried to locate Porter, but couldn't. I haven't laid eyes on an '04 man for about four years. Hope to be back in June, but can't tell yet whether I can or not. Since leaving Tech, I have done my duty by having a girl, Aug. 2, 1905, and a boy, July 30, 1908. Being married before going to Tech, I had a flying start on the rest of the fellows.

—Carl King's "eldest son," Albert Dunning King, was born December 12.—Bouscaren will be married in Tampa, Fla., on April 22, to Miss Ethel Trawick. They are planning to start immediately after on a three months' trip abroad.—Dave Elwell has been for nearly three years on the electrification of the New York division of the New Haven Road, and is enthusiastic over the work which the Westinghouse people have done there. Though his present address is 7 Fairview Place, New Rochelle, N.Y., the approaching completion of the work renders uncertain his future location. On December 31 his engagement was announced to Miss Mildred B. Kellock, of New Rochelle.—A letter from Todd, headed "Portland, Me.," says in part:—

In reply to your request for news will have to plead a lack of any startling material. My history is covered by the statement that I have been one of the Portland Company's electrical engineers from October, '04, to date. The company cannot be counted as a large concern, as only from two hundred and fifty to six hundred men are employed; but a great variety of engineering feats are put up to the engineering department. We are machinists, marine and electrical engineers, boiler makers and foundrymen, not to include a few other small departments, as agents for Knox automobiles and garage operators on the side. My specialties are elevator controllers and the Chapman electric neutralizer. The latter device is the only absolutely or even passably successful scheme yet devised for neutralizing static electricity in light materials where its presence is undesirable. As the idea was conceived only a few weeks before my connection with the company, I feel as though I had grown up in the business. My first two years here included considerable travelling, but of late I have been able to avoid all but frequent trips to Boston and other near-by points.

—Tripp (II.) was married to Miss Trixie Hannah Liverpool in Boston on January 9, and is living at 19 Concord Square.—Weymouth announces a seven-and-a-half pound addition to his

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family on December 30,—Edward Adams Weymouth. His address is Box 286, Hudson, Ohio.—Underhill writes, "Just returned from a three weeks' trip to the City of Mexico, but, did not have a chance to look up any Tech men."—Leyland Whipple is chemist and bacteriologist for the Water Department, Bangor, Me.—F. N. Bull is with the Regina Mining Company, Webb City, Mo.—Evans' card reads, "Aero Pulverizer Company, 90 West Street, New York, Wm. A. Evans, Manager."—C. S. Sperry is studying at the University of Colorado. His address is 1146 Euclid Avenue, Boulder, Col.—At a recent dinner of the M. I. T. Biological Society, Selskar Gunn, health officer of Orange, N.J., spoke on "Trials and Tribulations of a Health Officer."—Nyce writes from Sacramento, Cal.:

Your request for news concerning my many jumps must wait for a reply until I land long enough in one spot to get my breath. If such a condition ever arrives, I shall weary you with a whole pad of paper. The excessive long rains, with the necessary high rivers and washouts, are holding me here. The rivers have been within nine inches of the tops of the levees of this town.

—Under address of 201 Victory Avenue, Schenectady, N.Y., Selby Haar writes:—

I had a curious experience not long ago. I answered a telephone call, and the voice at the other end said he was Haraden. He is transferred here from Lynn. He looks just the same. Pendergast was here in the summer. He is an engineer in the Reclamation Service, and was inspecting some material. My old original drill-master, G. W. Sanborn, also ran in here one day last summer. He is an insurance inspector. He had seen Captain Curtis not long before that. I presume that you know that Robert Palmer married a lady from this city. Not having any more news, I must close now, but shall shake hands with you at the reunion in June.

Haar is not the only man who mentions the great reunion. Nearly every letter for months has referred to it, expressing the intention of the writer to surely come. It is the men who do not write me that need following up.—Mert Emerson has designed and built a new house in Braintree, Mass., which he occupied in December.—Wonders do not cease. On the street in Saylesville I met the other day an '04 man, Willard Chandler, who was here on an inspection for the Associated Factories Mutual Fire Insurance Company of Boston. He is married, with a home in Somerville, but is away from Boston most of the time, though on his nearer assignments he gets home at night.—Since Magee's death Rowe has formed a new partnership for the continuation of his architectural practice at 161 Devonshire Street, Boston. His new associate is Henry F.

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Keyes (IV.), '04.—W. T. Wilson (I.), was married December 24 to Miss Valeria Inez Merrill at the Cathedral of St. John the Divine, New York. Wilson is in the designing department, Board of Water Supply, New York.—Edward W. White is with the A. C. Lawrence Leather Company, Peabody, Mass.—Notices have been returned from W. U. C. Baton, R. P. Bellows, C. R. Cary, P. D. Hoard, A. H. Kudlich, C. W. Paddock and David Sutton. Notification to the secretary of the present addresses of any of these men would be much appreciated.—New addresses are: J. McF. Baker, 1285 Dean Street, Brooklyn, N.Y.—A. W. Bartlett, 31 Wycombe Avenue, Lansdowne, Pa.—K. M. Baum, care Vermont Copper Company, So. Strafford, Vt.—A. W. Bee, 218 Woodlawn Avenue, Hartwell, Ohio.—B. Blum, Avon, Mont.—L. M. Bourne, 820 Nostrand Avenue, Brooklyn, N.Y.—J. F. Card, 911A West Silver Street, Butte, Mont.—L. C. Clarke, Jr., 382 East Ontario Street, Chicago, Ill.—E. L. Clifford, 614 Greenleaf Avenue, Wilmette, Ill.—J. E. Cunningham, Beacon Chambers, Boston, Mass. —J. S. Currier, Naval Torpedo Station, Newport, R.I.—F. H. Davis, Southern Pacific Ferry Landing, New Orleans, La.—C. J. Emerson, 251 Causeway Street, Boston, Mass.—Halsey French, 619 East 17th Street, Brooklyn, N.Y.—L. T. Howard, New York Barge Canal, Schuylerville, N.Y.—A. Y. Hoy, Box 1827, Spokane, Wash.—G. E. Kershaw, 16 Castle Rock Street, Dorchester, Mass.— J. D. McQuaid, 13 East 17th Street, New York—R. D. Mailey, 20 Howard Street, Lynn, Mass.—R. S. Phillips, 2043A E Street, Granite City, Ill.—M. H. Schwartz, 49 South Sacramento Boulevard, Chicago, Ill.—Grant S. Taylor, 8 Garden Place, Brooklyn, N.Y.

George M. Magee, of the Class of 1904, died at Wenham on the 7th of February, 1909. A form of tuberculosis was the cause of his death.

He was born in Chelsea in 1883, attended Hopkinson School, Boston, and entered the Institute in 1900, graduating from the Architectural Department in 1904. He returned for a Master's degree, which was awarded him in 1905.

In October, 1906, he married Miss Helena Buhlert, of Wenham.

In 1907 he became a member of the firm of Magee & Rowe, architects.

Through his good fellowship and his sincere and generous nature he won the respect of his classmates and all those who knew him.

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1905.

GROSVENOR D' W. MARCY, *Sec.*, 246 Summer Street, Boston, Mass.

The response to the letter telling of the '05 reunion plans was very general, as is shown by the list given later of those who replied that they will surely or probably be here in June. The indications are strong that '05 will have a splendid turning out, and that the camp at Newburyport will be crowded. This is as it should be, for it is our first big reunion, and '05 always did—well, perhaps we'd better not talk about that here, for we do not want to make any other people feel bad. But do not get the idea that it will do to leave it to that. We've got to work as a class for this reunion, just as we did for Field Day and some other things. All the letters and notices the secretary could send out in a year will not take the place of your writing your friends that you are going to be there, and hope they are, too. And *now* is the time to do it. It is a sure proposition that being here in June will add four years to any real '05 man's life, for, after being at camp and going through the grand line-up of stunts of the reunion proper, you cannot possibly feel any older, and probably not as old, as when you did or didn't get your degree. The general spirit is voiced by our Buffalo correspondent as follows: —

Tech bunch in Buffalo very enthusiastic about reunion. Plan to arrive by special Pullman, if one with sufficient capacity for liquid baggage can be obtained. If not, have local option on Standard Oil tank car, with pipe line to Pullman.

Several are coming, if it takes a leg. Billy Sneeringer expects it to take a ligament, and is ready to risk a lung and a bank account. Bill Motter thinks he could walk it, and would start now if he was not tied down to a job in New Mexico. He has hopes for June, however. Sprague is coming, if he has to swim down the Merrimack from Haverhill. To these we would offer a word of caution. The most distant man who may be able to come is J. C. Eadie, from Castletown, Isle of Man, England. Leonard Bushnell, from Seattle, and Charlie Johnston, from Mexico, will also have pretty long trips. Charlie writes that Mrs. Johnston is a silent partner to the reunion plans, and he does not see how he can help coming. He has been promoted to a larger mine, and is now superintendent of the Reforma Mines, Cuartro Ciénegas, Coahuila, Mexico. He is thirty-five miles from the railroad and one hundred miles from the nearest town, so sometimes the four white people there, the book-keeper,

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doctor, Mrs. Johnston, and Charles find it a bit lonesome.—George Hool is professor of civil engineering at the State University of Oklahoma. He is teaching eighteen different subjects, seven of which last through the year, so he keeps pretty busy, and has some outside work, too. He hopes to be here in June.—Robert C. Cutting writes as follows:—

Most fellows get their vacations in the summer time, but, alas! we who work for Uncle Sam, improving the Ohio River, have to take our summer vacations in the winter, and it requires a good imagination to thoroughly enjoy Boston with the mercury almost out of sight.

I wish very much that I could be around in June, and see all the old fellows of '04 and '05, but I fully expect to be leading a very strenuous life about that time. I am in local charge of the construction of Lock and Dam No. 26, Ohio River, a million-dollar project; and, as the government proposes to do the work by hired labor instead of by contract, I will be having a merry time here next summer, plenty of work and plenty to worry about. I like it all, though.

This is rather an isolated place. It cannot be called a town. Gallipolis, Ohio, is eight miles away, and Wheeling almost two hundred.

McCain ('06), is working in the district office in Wheeling. Tech men in general are well thought of by the officers of the corps of engineers, so I have found. I was at West Point about a year ago visiting one of them, and a number of the professors there spoke very highly of the Institute. They even spoke of the advantage of sending cadets assigned to the engineer corps to take a special course there, as in the case of the Annapolis men taking the Naval Constructors' Course.

If I cannot be at the reunion in body, I sure will be there in spirit. With the best wishes for a good time and my regards to all the fellows.

—E. H. Lorenz says: "Am going abroad for the summer, and expect to be in Switzerland just then. Would give up a week of that for the reunion, though, but can't afford to bust up the whole trip. Wish it was any other year. That camp looks just great."—Joe Daniels comments on the card sent out as follows: "This statistical habit together with this Græco-Roman hold-you-fast ballot, almost leads one to believe that the Young Turks are in control. You can't say 'no,' or you're a shyster, you can't say 'yes' without reproving yourself for lying, shall I say?" However, Joe says "probably." —Ned Jewett is in Houston, Tex., with H. L. Stevens Company. Unless the unexpected happens, he will undoubtedly be here in June. He reports that F. P. Paine is in that city with the Otis Elevator Company, and is installing elevators in two buildings which Ned's people have under construction.—"Chink" Moorehead is also with H. L. Stevens Company in Atlanta, Ga. His address is

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63 N. Forsythe Street.—Roy Lovejoy has gone on a trip to Panama, and thence to California, but hopes to be back in time to bring his auto up to camp.—Sammy Seaver is at Claremont, N.H., with the Sullivan Machinery Company.—E. E. Woodbury is with the Standard Underground Cable Company, Pittsburg, Pa.—David Collins is on the engineering corps of the Pennsylvania Railroad, building the Sunnyside Yard at Woodside, Long Island, N.Y. He reports the possession of two children, and asks if that is not the record, apparently not knowing that Jim Barnes has that secure.—Bob Turner is a member of the law firm of Kaan, Luce & Turner, 50 State Street, Boston. Last year he was manager of Mr. Luce's campaign for the Republican nomination for lieutenant-governor, which was a very interesting and hotly contested fight.—Bob Farrington also announces that he has opened an office for the general practice of law at 8 Exchange Place, Boston.—E. B. Snow is at the Rock Island Arsenal. His address is 1704 5th Avenue, Rock Island, Ill. —Fred Goldthwaite has taken the New England agency of the Phœnix Iron Works Company of Meadville, Pa. They make engines, boilers, flues, stacks, etc. His address is 115 Central Street, Peabody, Mass.—C. E. Gage is back at Culebra, Canal Zone, and is working with Jack Flynn for a boss.—E. Gordon Bill is teaching in Yale University.—J. H. Morse is a member of the executive committee of the Eastern Manual Training Association, with headquarters at the Primary Industrial School, Columbus, Ga. —Harry Donald is with H. D. Edwards & Co., mill, railroad and vessel supplies of Detroit, Mich.—Jules Barnd is president of the National Mining Stock Exchange of Marion, Ohio.—Sid Strickland writes from Paris, where he is studying at the École Nationale des Beaux-Arts, that he will not return for another year. He says he is up to his ears in work, which is unending, lasting seven days a week, day and night. He didn't work like that at the 'Stute.— A. J. Lowndes is head of the Lowndes-Mitchell Engineering Company, consulting-engineers and contractors, 500 Law Building, Baltimore, Md.—Hallet R. Robbins has resigned as assistant engineer in Department of State Engineer and Surveyor, and is now associated with Alexander Potter, consulting engineer, 143 Liberty Street, New York. His engagement to Miss Florence Dench, of Princeton, Mass., is announced.—The engagement is announced of Miss Gladys Poole, of Weymouth, Mass., and Charles Leavitt.—Herbert M. Wilcox married Frances H. Jaynes, of East Orange, N.J., on March 6. Wilcox is with the Skyland Hosiery Company, Tryon N.C.— Mr. and Mrs. F. O. Sprague announce the birth of Miss Elizabeth Sprague on March 5.—Mr. Bernard Faymonville, of San Francisco,

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wrote the secretary that his son, Leroy, died in the city of Hermosillo, N.M., in January of last year. At the time of his death he was manager of the Electric Light and Power Plant in that city. The secretary wrote Mr. Faymonville, assuring him of the sympathy of the class in his loss.—The engagement of Percy G. Hill and Miss Alice H. Fenton, of New Haven, Conn., was announced on February 22.—A. H. Smith had a boy born on October 31, named Richard Brewster Smith.—Leigh A. Thompson, who has not been heard from before, reports his marriage on Nov. 28, 1907. His address is 452 Merrimack Street, Manchester, N.H.—Peet Bixby is still single, and is with the Erie Railroad at Meadville, Pa. He says there are eighteen churches and twenty-six saloons in that town, and that he patronizes the churches sometimes.—For news in Baltimore, Walter Clarke refers to Ecclesiastes, latter part of verse 9.—Willard Simpson reports that enthusiasm is boiling in Texas for the reunion, and that he is coming or bust. He is practising as a structural engineer in San Antonio, and has just finished two large buildings and has a lot of work on hand.—The midwinter dinner, held at the New Union on February 20, was just a small sample of what the reunion will be like. There were twenty-four men present, and every one got filled up with broiled chicken and enthusiasm.–Ros Davis, who came up from Elizabethport, N.J., revived Simon Pure Brass and Jack Tar of the Good Ship Spy in a way that brought tears to the eyes of many. With Prescott at the piano and a quartet of Davis, Seaver, Coffin and Folsom, everybody joined in and learned the new songs in good style, and sang the old ones as '05 never did before. The plans for the camp at Laurel Hill were discussed enthusiastically. About fifty men have asked for provisional reservation. It is an ideal spot, and we ought to have the time of our lives there. Folsom, Perkins and Coffin are the committee in charge. Plans are going forward in good shape, but there is not space to describe them here, and a special letter will be sent to all who have replied to previous letters. The following list gives all those who answered that they will probably or surely be here in June. If your friends are there, write that you are coming, too. If they are not there, write them and find out why. A. H. Abbott, Box 111, Pittsfield, Mass.; C. Robert Adams, 23 Burr Street, Jamaica Plain, Mass.; Roy H. Allen, 8 St. Botolph Street, Boston, Mass.; C. A. Anderson, 238 Beach Street, Revere, Mass.; Court W. Babcock, Tech Chambers, Boston; William G. Ball, 5 Summit Avenue, Winthrop, Mass., Waldo A. Barber, 21 Gardner Street, Allston, Mass.; Jules V. Barnd, Marion, Ohio; G. M. Bartlett, 63 Fernwood Road, Boston; Robert S. Beard, Warwick, N.Y.; A. F. Belding, Joplin, Mo.;

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Frederick G. Bennett, Babylon, L.I., N.Y.; William P. Bixby, Box 364, Meadville, Pa.; Charles E. Broad, 53 Commonwealth Avenue, Chestnut Hill, Mass.; Walter S. Brown, Brimmer Chambers, Boston, Mass.; Henry A. Buff, 23 Cheshire Street, Jamaica Plain, Mass.; Walter Burns, Doughty House, Millville, N.J.; Leonard T. Bushnell, 208 Columbia Street, Seattle, Wash.; C. A. Butman, Clark University, Worcester, Mass.; Robert Keep Clark, 82 Michigan Avenue, Chicago, Ill.; W. A. Clarke, 307 W. Hoffman Street, Baltimore, Md.; Ed. M. Coffin, New England Bureau United Inspection, 71 Kilby Street, Boston, Mass.; Richard V. Collins, Good Roads Office, Weighlock Building, Syracuse, N.Y.; Gorham Crosby, 49 Wall Street, New York; Carroll C. Curtis, 137 Milk Street, Boston; Carl E. Danforth, Bangor, Me.; Joseph Daniels, Lehigh University, South Bethlehem, Pa.; Philip G. Darling, University Club, Bridgeport, Conn.; Roswell Davis, 106 Clinton Avenue, Newark, N.J.; Walter G. Eichler, 55 Jackson Street, Lawrence, Mass.; Frank S. Elliott, 313 Broad Street, Lynn, Mass.; Robert D. Farrington, 8 Exchange Place, Boston, Mass.; Andrew Fisher, 186 Lowell Street, Manchester, N.H.; Robert M. Folsom, Boston Consolidated Gas Company, Everett, Mass.; George Fuller, 83 Adams Street, Rochester, N.Y.; R. S. Gardner, care of Massachusetts Institute of Technology, Boston; A. C. Gilbert, 254 Arlington Street, West Medford, Mass.; Luther Elmer Gilmore, Branford, Conn., P.O. Box 521; Fred W. Goldthwait, 115 Central Street, Peabody, Mass.; William S. Gouinlock, Warsaw, N.Y.; C. H. Graesser, Wallingford, Conn.; Fred W. Guilford, 205 Lincoln Street, Boston; Charles W. Hawkes, 79 Brook Street, Pawtucket, R.I.; Edgar Logan Hill, P.O. Box 553, Worcester, Mass.; T. E. Hinkley, 57 Deering Street, Portland, Me.; William G. Housekeeper, 3508 Baring Street, Philadelphia, Pa.; Willis F. Harrington, Barksdale, Wis.; Charles H. Johnson, 176 Federal Street, Boston; Charles W. Johnston, Mina Reforma, C. Cienegas, Coah., Mexico; Gilman B. Joslin, 46 Burroughs Street, Jamaica Plain, Mass.; Henry H. W. Keith, C. & R. Department, Navy Yard, Washington, D.C.; H. W. Kenway, 19 George Street, Newton, Mass.; Maurice B. Landers, Patent Office, Washington, D.C.; C. Arthur Lord, 49 Westminster Street, Providence, R.I.; R. H. W. Lord, Gorham, Me.; J. S. Loughlin, 1216 4th Avenue, Rock Island, Ill.; Roy F. Lovejoy, Lowell, Mass.; H. J. Macintire, 135 Marshall Street, Brooklyn, N.Y.; R. W. McLean, East Bridgewater, Mass.; Alden Merrill, 74 Litchfield Street, Torrington, Conn.; Robert W. Morse, 49 Holbrook Street, Jamaica Plain, Mass.; James C. Pease, Merrimac, Mass.; Grafton B. Perkins, 135 Columbus Avenue,

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Boston; Goodale Perry, 141 Milk Street, Boston; Albert G. Prescott, 16 Whitman Street, Dorchester Centre, Mass.; F. B. Bailey, 77 Rockview Street, Jamaica Plain, Mass.; Hallet R. Robbins, 143 Liberty Street, New York; E. G. Schmeisser, 10 Bridge Street, New York; Samuel Seaver, Sullivan Machinery Company, Claremont, N.H.; W. E. Simpson, 310 Alamo National Bank Building, San Antonio, Tex.; Charles E. Smart, Greenfield, Mass.; William F. Smart, Lewiston, Me.; Edwin B. Snow, Jr., 1704 5th Avenue, Rock Island, Ill.; W. L. Spalding, 1 Austin Street, Buffalo, N.Y.; F. O. Sprague, rear 208 Summer Street, Boston; R. P. Stebbins, 862 South Street, Roslindale, Mass.; Samuel S. Stevens, 73 Grand Street, Newburg, N.Y.; Henry J. Stevenson, 41 Central Avenue, Waterbury, Conn.; G. S. Tower, Room 61, 31 Milk Street, Boston, Mass.; Le B. Turner, Geneva, Ill.; Robert N. Turner, 50 State Street, Room 48, Boston; Waldso Turner, 1174 Frick Building, Annex, Pittsburg, Pa.; Maurice E. Weaver, 2501 Wisconsin Avenue, Washington, D.C.; Henry A. Wentworth, 160 India Street, Boston; Miss Mildred Frances Wheeler, 23 Leyfred Terrace, Springfield, Mass.; Horatio Whiting, 65 W. 104 Street, New York; Kilbourn Whitman, Jr., Mt. Morris, N.Y.; James Whitmore, Lock Box 395, State College, Pa.; H. L. Whitney, Box 995, Beverly, Mass.; Ellis G. Wood, Arlington, Mass.; E. Ernest Woodbury, 14 Emerson Avenue, Crafton, Pa.

1906.

GEORGE F. HOBSON, *Acting Sec.*, 164 Holyrood Ave., Lowell, Mass.

I. *On the Part of the Secretary.*

Since January your secretary has devoted the greater part of his time to receiving class dues, paying bills and straightening up the financial affairs of the class, and now he has the pleasure of announcing the class to be entirely out of debt and to have a deposit of nearly $50 in the bank. While this is very encouraging, classmates are urged to pay up their dues immediately, if they have not done so, since the expenses for the big reunion in June will necessarily be very large. In regard to the reunion, the outlook for a large delegation of 1906 men is splendid. The secretary has received a great number of letters from fellows all over the country, saying that they expect to be present upon this occasion. On March 3, 1909, the executive council held a meeting, and decided that a committee of five should be appointed to look after the interests of the

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class during the time of the reunion. This committee will be appointed very shortly. The executive council also appointed a nominating committee to nominate class officers for the coming year. The nominations are as follows: trustee of permanent fund, Stewart Coey and Percy Tillson (term expires in 1912); member of executive council, J. M. McKernan and G. F. Hobson (term expires in 1912); secretary, F. A. Benham and C. E. Tucker (term expires in 1911); assistant secretary, R. J. Barber and S. L. Ware (term expires in 1911).

The attention of the class is called to Article VIII., Section 1, of the constitution, which reads as follows: "Should ten or more members of the class wish to nominate a candidate for office, they may forward name of said candidate, endorsed in writing by at least ten, to the nominating committee, who shall place name of candidate upon ballot." Nominations will be forwarded by the secretary to the nominating committee any time previous to April 15, 1909.

II. *Class News and Letters.*

The secretary received a short note from E. P. Cutter, who is now located in Ensley, Ala.—M. T. Lightner is with the Chicago & Alton Railroad, Bloomington, Ill.—E. D. McCain has gone into the real estate business in Allegheny, Pa., therefore it goes without saying that he is prospering splendidly.—Percy Tillson writes as follows:—

> The Philadelphia Club had a smoker on the 12th of December, and, of an attendance of twenty-five, eleven were 1906 men. How is that for the '06 Quakers?

—We also received a nice letter from W. E. H. Mathison with the following items of interest:—

> I became interested in the talc belt of northern New York, secured backing for the Uniform Fibrous Talc Company, and became a director and general manager. Our mine shaft runs down eighty feet in fine talc all the way from the surface, and insures a wonderful property. In the spring we are to build a concrete dam, a concrete mill run by electric power and hope to do business by August of this year.

—W. F. Englis' new address is 2023 Land Title Building, Philadelphia, Pa.—Fay Libbey writes that he is at the Old Vulture Mine, Wickensburg, Ariz., and is in a desert sixteen miles from a railroad, but likes that very much.—"Pete" Barnes is still with the New York Board of Water Supply, but runs down to New York occasionally when the water supply runs low.—Laurence Blodgett says that he will surely be on for the big reunion, and we hope that many others

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are making similar plans.—"Dick" Beers' excuse for not attending the semi-annual dinner is hereby submitted:—

Sorry that I can't be with you at the dinner, but "my wife won't let me." Remember me to all the deck hands.

—"Herb" Whiting has succumbed to the attractions of the "Gay White Way," and gone to New York with the Holophane Company. —"Dick" Polhemus writes that he is in charge of the mining work at Carthage, Mo., and is rooming with L. N. Bent.—"Bunny" White writes that the Philadelphia bunch intends to send up a good delegation in June.—C. F. W. Wetterer writes from Dallas, Tex., that he has met several Tech men down there, but that they were not of 1906.—A. A. Turner bemoans the fact that he has got to usher in the New Year from the mountains of Beatty, Nev.—"Kirk" Chase is now working for the American Smelting and Refining Company in Denver, Col.—Edwin Frank is abroad, and spent one evening with James Kane, who is studying in Paris.—"Jimmy" Banash sends the following news from the Windy City:—

I attended the alumni reunion of the North-western Alumni Association of M. I. T. on Nov. 28, 1908, at the University Club. Johnny Hand was present with his orchestra, and we had a rather large time. I suppose you know that C. D. Richardson is in charge of our Pittsburg office, National Fire Protection Association.

—J. F. Norton is teaching chemistry at the University High School in Chicago and at the same time studying for an advanced degree. "Bill" Lincoln writes that he is located on the Flathead Indian Reservation, where the United States government is laying out irrigating systems for the noble redman, who, he firmly believes, would rather that they should install a brewery. We believe that such an institution would meet with Bill's enthusiastic approval also.—Our last correspondent is Keleher, who is writing from Lima, Peru, which town has not had a rain-storm for fourteen years. Keleher writes, "Thank God, I am not selling umbrellas."—The class will be very sorry to learn of the death of George F. Hunt, and the following testimonial has been drawn up by the undersigned committee:—

Whereas, it has pleased God in his infinite wisdom and goodness to call from his place among us our beloved classmate, George F. Hunt, and whereas, through the death of our classmate, the Class of 1906 has sustained the loss of a most valued member and the Massachusetts Institute of Technology the loss of a most valued alumnus, be it

Resolved, That the Class of 1906 extend to the immediate family our heart-

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felt sympathy and condolence in their bereavement, and be it further *Resolved*, That a copy of these resolutions be sent to his immediate family, that a copy be put upon the class records, and that a copy be sent to THE TECHNOLOGY REVIEW for publication. (Signed) George E. Burnap, John J. Donovan, Charles A. Howard, *Committee*. Dated, Feb. 1, 1909.

1907.

ALEXANDER MACOMBER, *Sec.*, 83 Newbury Street, Boston, Mass.
BRYANT NICHOLS, *Res. Sec.*, 138 Fremont Avenue, Everett, Mass.

I. *General Notes.*

On the occasion of the annual alumni dinner, held in January at Horticultural Hall, '07 was well represented, and an evening of great enthusiasm was enjoyed. Those present from '07 were Laurie Allen, Chase, Lee, Macomber, MacGregor, Norton, Nichols, Wonson, Thayer, Walker, Woodward, Waters, Squire, and Tashjian. Just now preparations for '07's share in the big reunion this June are before us, and we expect to make this an occasion to be long remembered. Letters have already been sent out to the fellows, and a hearty response is hoped for. On March 6 the fellows in the vicinity of Boston got together for a dinner at the Union. Thirty-six men were on hand, and the guest of the evening was I. W. Litchfield ('85), editor of the REVIEW. Mr. Litchfield gave us a characteristic talk about the plans for the All-Technology Celebration this June. After dinner informal discussion of plans for this event resulted in appointment, by President Robbins, of a reunion committee, consisting of the secretaries and Laurie Allen, MacGregor, Charlie Allen, and Don Robbins. It was also decided to hold monthly dinners till June to hear the progress on the reunion plans. These will take place at the Hotel Marliave, Boston, on the first Fridays in the month. Any '07 man in town on that night is hereby warned to put in an appearance. At the suggestion of Mr. Litchfield a committee representing '07 was appointed to look up fellows considering a technical education, and put them in communication with the Institute. In this way Tech can secure as students select men,—the class of men who are going to amount to something in later years. This is but a small part in the campaign which is now being waged for a broader and greater Tech. If any one knows of fellows of this type who contemplate technical education, he is urged to communicate with the authorities. Later in the evening several of the fellows told their experiences during the past

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year. Sam Marx's tale of his experiences abroad took the cake, however, as one would naturally expect.

II. *Personal Notes.*

We have several more names to add to the benedict list. W. I. Keeler was married on Feb. 23, 1909, to Miss Jane Augusta Johnson, of Malden, Mass.—Ralph G. Hudson was also married during February, while news is received of the marriage of R. C. Ashenden (ex-'07), to Miss Grace Chadwick, of Newton Centre, Mass.—The engagement is announced of Miss Elsie Louise Fogg, of Chelsea, Mass., to Bryant Nichols.—The matter of the class baby has been receiving some attention from your secretaries recently, and we believe the honor falls to Oscar Starkweather, who is the proud father of Oscar Allen Starkweather, Jr., born June 30, 1908. Stark always was a good example, and we offer him our congratulations. Bottom's up to "Stark, Jr.," M. I. T. '26 (?).—P. V. Dodge has resigned as class correspondent for the Pittsburg district, on account of his moving to Washington, and C. N. Draper, 40th and Butler Streets, has been appointed to the vacancy.—We note with pleasure the success and prominence of some '07 men: A. G. Labbé is secretary of the Technology Association of Oregon.—Hud Hastings, we hear, is making a name for himself at Bowdoin, where he has charge of the civil engineering course and in addition has done some important work in bridge engineering.—R. A. Martinez is in Havana as engineer in the sewer department.—E. M. Richardson (ex-'07), is with the automobile department of the American Locomotive Company, 1886 Broadway, New York.—John Evans is chief engineer of the Denver City Tramway Company, Denver, Col.—The following is clipped from the Wakefield (Mass.) *Banner*:—

> The friends of Donald Russ have been glad to welcome him to Wakefield this week. He is in this vicinity on a business trip in the interests of the recently organized company known as the Russ Manufacturing Company. The company was incorporated in Delaware with a capital of $100,000, and starts out with very bright prospects. Mr. Russ, a graduate of the Institute of Technology in the Class of '07, has shown himself to be possessed of much executive ability as well as of unusual originality along the line of independent research and laboratory experiments. The output of the new manufactory is to be photo and food gelatines, concerning which Mr. Russ has made some very important discoveries.

Changes in address: F. O. Adams, 849 Camp Street, New Orleans, La.—J. P. Alvey, Jr., 701 Ideal Building, Denver, Col.—R. Brigham, 1111 Park Building, Pittsburgh.—H. N. Burhans, 227 Mc-

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Lennan Avenue, Syracuse, N.Y.—W. P. Coffin, 433 Walnut Street, Brookline, Mass.—P. L. Cumings, 41 Atlantic Avenue, Fitchburg, Mass.—L. R. Davis, Kingston, Ohio.—V. H. Dickson, 306 South Jefferson Street, Peoria, Ill.—S. G. Emilio, Dee, Ore.—J. T. Fallon, 52 Broadway, New York.—J. H. Fellows, The Lincoln, Youngstown, Ohio.—R. F. Gale, 84 State Street, Boston.—H. R. Hall, 763 Broadway, Somerville, Mass.—T. C. Keeling, care of Ponce Railway and Light Company, Ponce, Porto Rico.—P. F. Kennedy, 1129 Hamilton Street, Spokane, Wash.—J. H. Link, Y. M. C. A., Akron, Ohio. —H. J. C. Macdonald, Box 130, Phœnix, B.C.—J. M. McMillin, care of Denver Gas and Electric Company, Denver.—H. W. Mahr, care Bowler Brothers' Brewery, Worcester, Mass.—Eugene Phelps, Meeteese, Wyo.—Allen Pope, 3025 15th Street, Washington, D.C. —D. E. Russ, 12 Hone Street, Oil City, Pa.—Tracy Smith, 20 North Church Street, Schenectady, N.Y.—E. E. Workington, 24 Plum Street, Portland, Ore., care of Portland Electric Company. —S. D. Wells, Mead Pulp and Paper Company, Chillicothe, Ohio.—E. F. Whitney, 104 Jay Street, Schenectady, N.Y.— A. G. Labbé, Willamette Iron and Steel Works, Portland, Ore.— A. W. Hull, 131 33d Street, Newport News, Va.—R. E. Thayer, 110 Spring Street, Medford (at M. I. T.)—B. F. Mills, Tacloban, Leyte, P.I.—C. W. Nutter, 3 Sturgis Street, Chelsea, Mass.— R. G. Kann, Pittsburg Plate Glass Company, Pittsburg, Pa.— C. J. Trauerman, Independent Steel and Wire Company, Pittsburg. —R. C. Albro, 683 Atlantic Avenue, Boston.—R. F. Gale, Cage, M. I. T., Boston.—H. W. Hill, treasurer Grip Coupling Company, Springfield, Mass.—R. G. Hudson, 83 Brattle Street, Cambridge. —C. A. Bowen, 43 Gates Street, Lowell, Mass.— A. E. Hartwell, 64 West Rutland Square, Boston (at M. I. T. till June).—Dan C. Loomis, care of Confectionery Machinery Company, Springfield, Mass.—C. R. Lamont, care Cumberland-Ely Copper Company, Kimberly, Nev.—R. E. Keyes, 91 Newbury Street, Boston. —W. F. Kimball, 15 Hillside Avenue, Medford, Mass.—John Mather, Fort Constitution, Portsmouth, N.H.—R. W. Parlin, 74 Lincoln Avenue, Wollaston, Mass.—E. V. Potter, 157 Walnut Street, Somerville.—Sam A. Marx, 236 Newbury Street, Boston.— L. Wetmore, 15 Magazine Street, Cambridge, Mass.—Chester M. Butler, 36 Sherman Avenue, Glens Falls, N.Y.—O. L. Peabody, care of Forbes Lithograph Company, Revere, Mass.—R. G. Woodbridge, Jr., care of E. I. du Pont Powder Company, Henry Clay P.O., Del.—F. R. Van der Stucken, care of McClintic Marshall Construction Company, Rankin, Pa.

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III. *Letters.*

W. I. Keeler writes under date of January 11. His address is 158 High Street, Hartford, Conn.

For the last year I have been with the General Electric Company at their Lynn plant as an assistant analytical chemist. Have just accepted an advantageous position with the Hartford Laboratory Company, run by C. L. W. Pettee, '97.

—K. W. Dyer wrote on Dec. 11, 1908, from Cromwell, Conn.:—

I resigned my position with the Opaque Shade Cloth Company, Chicago, to come home, so that I might be here to welcome little Osborne Coe Dyer, a lusty ten-pounder, who arrived August 23. If he is not the first son of the Class of '07, I would like to know who is, and his father and I can exchange congratulations. He seemed to take a technical view of things, but as yet we have not decided which course he shall take at the old Institute. There is but little chemical activity in this immediate vicinity, so I am following agricultural pursuits at our home place.

—H. L. Moody writes an interesting letter from United States Geological Survey, Pittsburg, Pa.:—

Since November 1 I have been here with the survey. I am not in the chemical department of the work, but am with the engineers, and just at present am conducting a series of tests on some house-heating boilers. It is very interesting work, . . . and incidentally there is a grand experience to be obtained out of it. . . . January 16 the Pittsburg Association of M. I. T. held a smoker, and got together a very enthusiastic bunch. They are planning for a dinner soon. . . . You can bet your life I am coming back to the reunion in June. . . .

—From England we have a line from Tresnon:—

Thanksgiving Day, 1908.—To-day is Thanksgiving Day, but I have not had my turkey yet (10 P.M.). The reason for this omission will be seen when you refer to my address (16 Gage Street, Lancaster, England). . . . I left Philadelphia on October 26 for home. I cannot tell of anything very exciting happening at present except to say that I am very busy working with my father, mostly keeping houses in good repair. My plans for the future are not yet matured, but I expect to return to the States in the early spring. . . . I shall make an effort to fix my plans, if possible, to be present in Boston in June, 1909.

—From John Frank:—

. . . We had a very successful alumni dinner out here on February 20. The new President made a very favorable impression. He looks like "the goods." Ike Litchfield was one of the main attractions, of course. In speaking of the affairs at Tech, he said that several men were trying for

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degrees of M.S. and Ph.D., and some of the coeds were trying for the degree of MAMA. [Laughter and applause.] The '07 men at the banquet were Naramore, Fred Schmidt, and myself. *Schmidt* came out here about a month ago. He is with *Marshall & Fox*, the architects, Chicago. . . . I hope to be there in June.

—From Draper:—

. . . W. W. Karnan has been putting in some very strenuous work for Uncle Sam since last December. He has been gas analyst for the gas producer tests which are running night and day here. One week he works days, and the next week nights. He has taken a week off at present to recuperate, and incidentally to visit the inauguration at Washington.

I met Trauerman last week, and he says he is general utility man, consulting engineer, etc., for the Independent Steel and Wire Company of Pittsburg, but is not crazy over the position, and expects to leave soon for Franklin Furnace, N.J. Since leaving Tech, he has been a globe-trotter, Mexico, Arizona, Colorado and Cobalt being some of his favorite haunts. H. L. Moody is another strong government worker. He is running sixteen hour boiler tests on various boilers with different grades of coal, and seems to be enjoying himself in his profession. He has a cosey little apartment where he spends all of his evenings, and tries to forget he is living in the land of smoke and soot. S. R. Miller is a hustling travelling salesman, and is flitting all over the eastern United States, and having a fine time. He meets a great many '07 men in his travels. Van der Stucken has left Pottstown, Pa., and is now with Roby with McClintic Marshall Construction Company at Rankin, Pa.

—A letter from Dick Woodbridge states he is with the du Pont Powder Company as research chemist in the smokeless powder department. He has already earned the *nom de plume* of "Smokeless Dick, the cellulose king." He is at their plant at Henry Clay P.O., Del., and likes it very much. The girls there are superfine, he writes, and as a mind-broadener they occupy three-quarters of his time.

1908.

JOHN T. TOBIN, *Sec.*, 162 Duke Street, Norfolk, Va.
RUDOLPH B. WEILER, *Res. Sec.*, 26 Brooks Street, Brighton, Mass.

The class committee on arrangements for the reunion in June had its first meeting on March 4. Gerrish, Osborne, Rapelye, Reid and Weiler were present. In the undecided state of the program for the three days of the reunion it was impossible to do any definite planning. The committee elected Rapelye chairman, and ad-

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journed to meet again as soon as the main committee had decided upon definite plans for the various reunion exercises. The following have been elected to the supervising committee, as explained in the January REVIEW: J. T. Tobin, J. W. Maxwell, A. G. Place. The cuts in the Senior Portfolio are now ready for distribution, and will be mailed on receipt of fifty cents to Harry Webb, M. I. T., or the resident secretary. The annual dues of one dollar are not coming in very fast. If you have not already done so, please remit the "bone" to the resident secretary.—"Sam" Daddow was married February 13 to Miss Mary Isabel Davenport, of Spruce Hill, Pa. They will be at home after the 15th of April at 933 Pear Street, Reading, Pa.—The engagement is announced of Miss Florence Cole to Arthur E. Bremer. This is the result of Arthur's studying structures at Fred Cole's house last winter.—"Clif" Cochrane has left the International Paper Company, and is now with the Factory Mutual Fire Insurance Company, 31 Milk Street, Boston. —A. W. Heath has left Pierce & Barnes, and is now with Stone & Webster, Boston.—J. G. Reid is with the Stone & Webster Management Association.—E. F. Lyford is back in town since the expiration of his three months' contract with the J. B. Laws Company of Louisiana.—Edward Kloberg is with the Board of Water Supply, City of New York, 299 Broadway, home address 452 East 179th Street.—H. J. Noble was in town last month. He has completed his course at Cornell, and will receive his degree in June. Address 325 Fenn Street, Pittsfield, Mass.—"Bunny" Ames has gone to Buenos Ayres, Argentine Republic.—Bond has left the Stanley Company, and is in the Forestry Service (Wood Preservation), United States Department of Agriculture, Washington, D.C.—"Jim" Burch is with Farley & Loetscher Manufacturing Company, Dubuque, Ia.—D. W. Clark is with the Sullivan Machinery Company, Claremont, N.H.—H. L. Burgess and O. S. Jennings have returned as assistants in electrical engineering.—E. G. Genoud, Jagon Strasse 2, Berlin, N.W. 87, Germany.—Masanao Yendo, Reichstrasse 16, Dresden, Sach., Germany.—H. W. Hoole, 234½ 17th Street, Milwaukee, Wis.—C. S. Colson, 36 East 28th Street, New York City.— B. G. Fogg, Box 313, State College, Pa.—G. A. Abbot, North Dakota Agricultural College, Fargo, No. Dak.—R. A. Angus, 161 West 105th Street, New York, N.Y.—R. B. Arnold, care of Kentucky Tobacco Product Company, Richmond, Va.—Warren S. Baker, Adirondack Cottage, Saranac Lake, N.Y.—W. J. E. Barcus, Garfield Smelter, Garfield, Utah.—C. C. Barker, 1361 Osgood Street, North Andover, Mass.—P. B. Barrett, 54 Lothrop Street, Beverly, Mass.—C. J. Carter, 6 Pine Street, Orono, Me.—R. C. Caryl,

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Pearl Street, Bridgewater, Mass.—J. H. Caton, 3d, Malalos, Bulacan, Philippine Islands.—J. C. Childs, 4002 Highland Avenue, Kansas City, Mo.—F. S. Cram, S. A. E. House, Orono, Me.—J. F. Curran, Pond Street, Nahant, Mass.—S. L. Davidson, Jr., 1326 Lawrence Avenue, Wichita, Kan.—W. F. Davis, Room 609, 101 Milk Street, Boston, Mass.—D. Dickinson, Jr., 1806 R Street, N.W., Washington, D.C.—C. J. Dore, 40 Howland Street, Boston, Mass. —A. H. Dows, 136 Smith Street, Lowell, Mass.—L. K. Ferry, 104 Howard Street, Pittsfield, Mass.—L. S. Gerould, 512 Rebecca Avenue, Wilkinsburg, Pa.—B. L. Gimson, 20 Glebe Street, Leicester, England.—José Gomez, Bureau of Agriculture, Manila, P.I.— L. F. C. Haas, 41 East Orange Street, Lancaster, Pa.—N. L. Hammond, East Walpole, Mass.—M. C. Hayes, Lewisburg, Pa.—I. G. Hersey, Box G, Hingham, Mass.—C. L. Hussey, 312½ Blackstone Street, Providence, R.I.—Russell T. Hyde, 26 Rue de Fleurus, Paris, France.—A. T. Kolatschevsky, Ex-Palazza Reale, Portici Presso, Napoli, Italy.—J. F. Leary, 120 Merrimac Street, Newburyport, Mass.—Charles L. Lufkin, Central Aquirre, Porto Rico.—J. W. Maxwell, Box 1445, Bisbee, Ariz.—E. W. Moreland, care of D. C. & W. B. Jackson, 84 State Street, Boston.—W. A. Morris, 204 East Main Street, Connellsville, Pa.—C. W. Morrison, 80 Florence Avenue, Revere, Mass.—G. A. Murfey, Altadena, Cal.—G. H. Pierce, 1605 W. Congress Street, Chicago, Ill.—P. R. Powell, Loomis Manning File Company, 828 Land Title Building. Philadelphia, Pa.—E. M. Price, 315 East 10th Street, Kansas City, Mo.—H. M. Richards, care of Mather & Co., 51 Wall Street, New York, N.Y. —Max Rohde, 529 North Wolfe Street, Baltimore, Md.—H. S. Sargent, 127 Prospect Avenue, Revere, Mass.—E. J. Scott, 1 Cushing Street, Lowell, Mass.—H. R. Sewell, Electric Light and Power Company, Galveston, Tex.—S. T. Silverman, 111 Aisquith Street, Baltimore, Md.—A. C. Sloss, Jr., care of Stone & Webster, Boston. —C. H. Spiehler, 255 West 92d Street, New York, N.Y.—L. S. Stone, 59 Fort Avenue, Roxbury, Mass.—E. C. Story, 10 Cypress Place, Lynn, Mass.—J. R. Tabor, Binz Building, Houston, Tex.— F. E. Towle, 91 Vernon Street, Waltham, Mass.—W. A. Tracy, South Coventry, Conn.—H. E. Walker, 1105-6 Stock Exchange Building, Chicago, Ill.—J. W. Wattles, Canton Junction, Mass.— L. S. Weeks, 72 Granville Avenue, Malden, Mass.—George D. Whittle, chief engineer's office, M. K. & T. Railway, Dallas, Tex. —V. C. Blackwell, Technology Chambers, Boston, Mass.—Miss Louise M. Bosworth, 2 Acorn Street, Boston, Mass.—E. I. Williams has won the three-year travelling scholarship in architecture, the Prize of Rome. A detailed account will be found elsewhere in the

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REVIEW.—Al Place is in Seattle, Wash., 510 9th Avenue. He is with the Seattle Electric Company. He writes:—

They hustle in this burg worse than they do in New York. It's "bing," and you're off in the morning, and then "thump," and you hit the pillow at night.

—"Spike" McGuigan writes, "Since escaping from the institution for the alleviation of adolescent ignorami and three et ceteras, I have been accepting money from the Michigan Central." He says that Mort Burroughs, Mike Dennedy and George R. Cooke are in Detroit. Tommy Orr is out in Kansas City, working for J. A. Waddell, a big bridge engineer.—George Glover is at Lima, Ohio, working for the Shea Locomotive Company.—Bowman writes from Chicago:—

While I haven't very much to say, I shall try to get that out of my system. There are still a few of us '08 fellows in Chicago. C. C. Kinsman, who was with the Metropolitan Elevated Railway Company, has resigned and gone to Decatur, Ill. I think he is now with a car truck manufacturing company. George H. Pierce is with the Metropolitan Elevated. He was married Christmas, and is now keeping house on the West Side. L. B. Hedge also is one of those who has concluded that Chicago is too large a city to be conducive to the happiness of a single man. His bachelor days ended January 18. R. W. Davis came through here December 20. He was looking well. Looks like the Ohio River water of Cincinnati was agreeing with him. Davis is in the Bullock factory of the Allis-Chalmers Company there.

I was unable to attend the annual dinner of the North-western Alumni Association, February 20.

My own past is soon told. I am still in the engineering department of the Commonwealth Edison Company, 139 Adams Street.

With best wishes,

D. BOWMAN,
437 East 61st Street.

—The following is a clipping from the *Oasis* (Nogales, Ariz.) of Dec. 5, 1908:—

Last Wednesday morning, the 2d inst., Mr. Ygnacio Safford Bonillas, of Nogales, Sonora, took his departure for the City of Mexico to fill an engagement with the Mexican government in the Corps of Engineers of the Geological Survey of the Republic, carried on under the direction of the Geological Institute of Mexico, whose director is the eminent geologist, Don José G. Auilera.

Mr. Bonillas graduated last June in the Mining Engineering Course at the Massachusetts Institute of Technology in Boston, and at the time he was called to Mexico he was engaged in making a geological study of the Twin Buttes region, with the view of presenting a thesis to the faculty

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of the University of Arizona for his Master of Science degree. This work, though interrupted for the present, will be reassumed by Mr. Bonillas at some future time.

The *Oasis* bespeaks for Mr. Bonillas a successful career in the scientific field which he is just entering.—From *The Tech* of March 1, 1909:—

Charles A. Gibbons ('08), who since his graduation has been an assistant in the Mining Engineering Department, left Thursday for Kelvin, Ariz., where he is to enter the employ of a large mining company.

—From *The Tech* of March 3, 1909: "The engagement is announced of William Durant Milne ('08), to Lorna MacLean, Wellesley, '08."

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Arthur A. Noyes.

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The T[illegible] Review

Vol. XI. [illegible]

THE INAUGURA[illegible]

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The Technology Review

VOL. XI. JULY, 1909 No. 3

THE INAUGURATION OF DR. MACLAURIN

Occasion brings together a Notable Assemblage—High Ideals of Technology lauded by Speakers—The New President is cheered to the Echo

Richard Cockburn Maclaurin, M.A., LL.D., Sc.D., was formally inaugurated to the presidency of the Institute on the morning of June 7 before a distinguished gathering at Symphony Hall.

The occasion was a most impressive one, Dr. Maclaurin being given the welcome of the Commonwealth, Harvard University, the Corporation of the Institute, the Faculty and the Alumni. Long before the time set for the ceremony the hall was filled with hundreds of distinguished guests and sons and daughters of Technology, young and old. The Faculty sat at the front in the central section of the hall. Behind them was seated a chorus of former glee-club men to lead in the singing of the inaugural ode. The entire senior class attended, with twenty-five representatives from each of the other classes, while the alumni were seated around the outside of the hall, grouped about their class banners.

Frederick P. Fish, of the Corporation, presided. With him upon the platform were seated the speakers,—Dr. Arthur A. Noyes, Dr. Henry S. Pritchett, Right Rev. Bishop Lawrence, President Maclaurin, Governor Eben S. Draper, Ambassador James Bryce, President Lowell, of Harvard, and James P. Munroe, together with members of the Corporation and the committee and most of the following invited guests: Dean Gardner C. Anthony, of Tufts College; Dean Sarah L. Arnold, of Simmons College, Boston; Dr. Fred W. Atkinson, of Brooklyn Polytechnic Institute; Dr.

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William G. Ballantine, of Indiana University; Professor Carl Barus, of Brown University; Francis Bartlett, trustee Museum of Fine Arts, Boston; President Hill McClelland Bell, Drake University, Des Moines, Ia.; Colonel Josiah H. Benton, Boston Public Library; C. H. Blackall, University of Illinois; President Matthew Henry Buckham, University of Vermont; President Kenyon Leech Butterfield, Massachusetts Agricultural College; Thomas N. Carver, American Economic Association; Rev. George Colby Chase, Bates College; Professor John Mason Clarke, Geological Society of America; Dean Mortimer E. Cooley, University of Michigan; Ralph Adams Cram, American Institute of Architects, New York; Rev. Charles Fletcher Dole, Twentieth Century Club; President Howard Edwards, of Rhode Island College of Agriculture and Mechanical Arts; Samuel J. Elder, president Yale Alumni Association; President Edmund Arthur Engler, of Worcester Polytechnic Institute; Hon. William Everett; President William H. P. Faunce, of Brown University; Worthington C. Ford, Massachusetts Historical Society; President Harry A. Garfield, of Williams College; President William D. Gibbs, New Hampshire College of Agriculture and Mechanical Arts; Dean Frederick A. Goetze, of Columbia University; Mr. Morris Gray, Museum of Fine Arts; President Arthur T. Hadley, of Yale University; Professor Edwin H. Hall, Johns Hopkins University; Dr. William Hallock, delegate Columbia University; President Frederick W. Hamilton, of Tufts College; Professor Paul H. Hanus, chairman of the Committee on Industrial Education; President George Harris, of Amherst College; Provost Charles C. Harrison, University of Pennsylvania; President Caroline Hazard, of Wellesley College; Major Henry Lee Higginson, Boston; Albert R. Hill, president of University of Missouri; Professor John E. Hill, of Brown University; Dean George Hodges, of Episcopal Theological School, Cambridge; Professor Ira N. Hollis, of Harvard; President Charles S. Howe, of Case School of Applied Science, Cleveland, Ohio; Alexander C. Humphreys, President Stevens Institute of Technology; President William E. Huntington, of Boston University; Dean Byron S. Hurlbut, of Harvard; Dean

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Agnes Irwin, of Radcliffe College; President Harry P. Judson, University of Chicago; Dr. Arthur Edwin Kennelly, delegate of Harvard College; Dean George W. Kirchwey, of Columbia Law School; Mr. Gardner M. Lane, Museum of Fine Arts, Boston; President Henry Lefavour, Simmons College; Professor John K. Lord, of Dartmouth College; President Flavel S. Luther, Trinity College; Professor Frank P. McKibben, delegate Lehigh University; President George E. MacLean, of State University of Iowa; Dr. Alexander Mann; Professor Charles S. Minot, of Harvard Medical School; Professor Herbert R. Moody, delegate College of the City of New York; Secretary Nagel, Department of Commerce; Professor W. J. Newlin, of Amherst College; Professor Ernest F. Nichols, of Columbia University; Professor William F. Osgood, American Mathematical Society; Professor Charles L. Parsons, American Chemical Society; Dean Ellen F. Pendleton, of Wellesley College; Professor Charles A. Perkins, of University of Tennessee; Dr. William Peterson, of McGill University; Professor Alfred E. Phillips, Armour Institute of Technology; Professor Edward C. Pickering, of the Astronomical and Astrophysical Society of America; Professor Michael I. Pupin, of Columbia University; Mr. Calvin W. Rice, of American Society of Mechanical Engineers; President William N. Rice, of Wesleyan University; Professor C. R. Richards, educator, New York; President Palmer C. Ricketts, Rensselaer Polytechnic Institute; Professor Charlotte E. Roberts, Wellesley College; Dr. Denman W. Ross, Museum of Fine Arts; President Bernard J. Rothwell, Boston Chamber of Commerce; Professor George F. Sever, of Columbia University; Professor Francis H. Smith, University of Virginia, Charlottesville, Va.; Professor Herbert W. Smyth, representing the American Philosophical Society; Hon. Louis Southard, University of Maine Law School; Miss Marion Talbot, delegate of the University of Chicago; Professor Crawford H. Toy, representing University of Virginia; Professor Royal L. Wales, of the Rhode Island State College; Professor John A. Walz, Northwestern University; Worcester R. Warner, representing the Society of Mechanical Engineers; Professor Arthur G. Webster, of Clark University;

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Dean Andrew F. West, of Princeton University; Professor Sarah Frances Whiting, of Wellesley College; James E. Whitney, of the Wheelwright Scientific School, Boston; Mr. Arthur L. Williston, of the Society for the Promotion of Engineering Education; Albert P. Wills, University of Chicago; John W. Winder, Wheelwright Scientific School; Professor Charles Zueblin, of University of Chicago; Admiral William Swift; George I. Aldrich, State Board of Education; Stratton D. Brooks, superintendent of schools, Boston; Louis A. Frothingham, lieutenant governor; Mayor George A. Hibbard; George H. Lyman; Joseph F. O'Connell; Hon. W. M. Olin; Abraham Shuman; Naval Constructor Elliot Snow; Henry H. Sprague; Hon. Charles Q. Tirrell; Allen T. Treadway; Horace G. Wadlin; Hon. Henry D. Yerxa, chairman of the Charles River Basin Commission; Rear-Admiral Francis T. Bowles; George G. Crocker, chairman Boston Transit Commission; W. B. de las Casas; Rev. James De Normandie; Frederick C. Dumaine; Charles L. Edgar; Samuel A. Eliot; Rev. Paul Revere Frothingham; Rev. George A. Gordon; Major-General Adolphus W. Greely; Professor Alexander Macalister; Bishop Willard F. Mallalieu; Dr. Edward W. Morley; Dr. Edward S. Morse; Frederick P. Stearns; Professor James M. Crafts, ex-president M. I. T.; Edmund H. Hewins; Professor James F. Norris, Simmons College; Professor Robert H. Richards; Dr. C. J. H. Woodbury, New England Cotton Manufacturer's Association.

The speakers and many of the guests upon the platform wore their academic gowns.

Before every address the sons of Technology in the audience rose and gave the regular M. I. T. cheer for the speaker to follow. The applause and cheering for former President Pritchett and Acting President Noyes were loud and long. Following the formal announcement by Mr. Fish of the election of Dr. Maclaurin to the presidency of the Institute, a mighty Tech cheer rose, and increased in volume to a deafening roar with "nine long Maclaurins" on the end, and the applause was continuous for some minutes.

An organ prelude, Bach's Toccata and Fugue in D minor, was played by Wallace Goodrich.

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Preceding President Maclaurin's inaugural address, an ode to the tune of "Sicily," "The Institute," was impressively sung by the whole body standing. The ode follows:—

Founded on the rock of knowledge,
  Planned with wisdom, wrought with care,
Rose our citadel of learning,
  Rich in promise, strong and fair.

Wide its portals, broad the outlook,
  From its towers, through earth and sky;
In its halls are all men welcome
  Who would nature's laws apply.

Loyal service, fruitful effort,
  Zeal to search and know the truth,—
These the watchwords of the wardens,
  These the goals pursued by youth.

Praise and honor to the founder,
  And to those whose course is run;
Their example as a halo
  Crowns the work so well begun.

We, the living, pledge our effort
  To transcend the radiant past,
Ever faithful to the standard,
  To the promise holding fast.

Bishop Lawrence opened the exercises with a prayer.

The Formal Announcement

Frederick P. Fish of the Corporation, who presided, said that the occasion was a notable one, and should be observed with a fitting ceremony, and no ceremony could be more impressive than such a gathering as this.

The alumni, the students, the Faculty, the Corporation, are all represented; but we have also a group of great educators, every one of whom

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is interested in the success of this institution, and we have also the great public, for whose benefit this institution and all others are here represented. On Jan. 26, 1865, William Barton Rogers made this entry in his diary: "School opened today with fifteen students. May not this be the beginning of a great institution?" Who shall say that the institution was not then full-fledged? The ideal, the standard, established that day has led to the establishment of many other institutions of the kind begun in Boston that day, and other institutions have come to modify their courses of study to their benefit. There are other types of education of great value, but ours has proved that it has a field of the utmost importance. The measure of advance of an institution of this kind is the succession of its presidents. A new one has now been taken to carry on our great work. His course, his ability, are clear. He must remember that this institution, however old, must be youthful forever. The great changes taking place in the world today must be reflected by changes which give its students the kind of education they require. This institution has kept its youth. It may fairly be said to be abreast of the arts, of the needs of the time. The new President must foster this everlasting youth,—a man of sound scholarship, with wide experience of the world, wide knowledge of human nature, winning the confidence of the students and the public. These duties are of a high order, but we believe we have found the man, and it gives me great pleasure to notify you that we have selected Richard Cockburn Maclaurin, A.M., LL.D., Sc.D., as President of the Massachusetts Institute of Technology. [Prolonged applause.] I do not go too far to say, without any further authority, that all here and all we represent pledge you, President Maclaurin, our loyal support.

This was followed by another outburst of applause, and then the seniors rose in a body and gave the college cheer.

Greeting from the Commonwealth

Governor Draper was greeted with prolonged and enthusiastic applause, which was renewed as he finished his address, which dealt with the relations of the Commonwealth to the Institute. He said:—

Mr. President, Ladies and Gentlemen,—It is fitting that the Governor of the Commonwealth should take a brief part in these exercises. The Massachusetts Institute of Technology, which started within the memory

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of many people here present, has grown from its small beginnings into a great educational institution, probably the greatest technical educational institution in the United States today.

The growth and influence of the Institute has kept pace with that of the nation. It has supplied to a very large number of men an education that was earnestly longed for and acquired only by hard work and conscientious attention to duty. It has been one of the pioneers in technical education in this country, which, since its inception, has spread rapidly in every section of the United States, and is now advancing and spreading more rapidly than at any previous time.

It has had able men for president, and their names have been properly associated with those of the great educators of the nation.

As an institution, it has had the discipline of trial and tribulation and the joy of great success. It has a permanent place in the great educational field of the State and nation, but its trials are not over, and the successes which will come to it in the future will only be brought about by the earnest efforts of able men.

At the present time there are great difficulties to be overcome to care for its future development. It is handicapped by lack of room and money, and its friends should see in the near future that both these limitations are removed.

In becoming President of this great institution, Dr. Maclaurin has no holiday task. The problems to be dealt with are large, the responsibility is great, the results which may be achieved are greater. The Commonwealth of Massachusetts is intimately connected with this Institute of Technology. It makes an annual contribution for its support, and it has the right to furnish a certain number of students because of the help rendered.

There is no cause dearer to the people of Massachusetts than that of education. They are proud of the past of the Institute of Technology, and believe in its future. It is, therefore, most proper that the Governor of the Commonwealth should be here in his official capacity today to extend the right hand of fellowship to the new President of this great institution, and to wish him success and prosperity, not merely on his own account, but beyond that for the great benefit a successful administration by him of his great responsibility will be to the people of this State and nation. He comes here with a distinguished record of past achievement. May his work here entitle him to the congratulations of all the people for a great work well done!

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Ex-President Pritchett Speaks

Ex-President Pritchett said that from his position he could only speak of his belief in the sincerity and the effectiveness of the education for which Technology stands. Few reasons justify the president of one of our great colleges in surrendering his work while health and strength last. Personally, he was influenced in giving up his position by the idea that the Carnegie Foundation gave an unusual opportunity to deal with higher education from a new point of view. Continuing, he said:—

I take peculiar pleasure today in the fact that the leadership in this work of the Institute of Technology has fallen into the hands of a strong, broad-minded, and able scholar, a man who has known education in many phases, who has known men in many lands, who has had to do not only with science, but with art and literature and law; and these things are not separate and distinct things, but are all parts of the same thing. He has had a preparation worthy of one who is to succeed William Barton Rogers, and his career carries with it some suggestions of the steps by which that great man came to his eminence and to his usefulness. I congratulate the Institute of Technology on such a President.

Let me say one word of congratulation to him concerning the institution to which he comes, for no man can know an institution in quite the same way as he who has sought for six or seven years to deal with its government, its faculty, its alumni, its students.

You find here, Mr. President, in the government of this institution a body of men as alert, as devoted, and as able as this country can offer. I myself came to Boston, as you came, a stranger in one sense, born in a distant western State as you were born in a not much more distant eastern country. I came with something of the prejudice and the feeling concerning the city of Boston which the newspaper comment so constantly reflects. I left at the end of seven years with an affection for Boston so hearty and so sincere that there is no other place in our country in which I should so gladly spend the rest of my days, and it will always remain to me more the home place than any other. The men who make Boston what it is are the men who are on your Corporation.

You will find in the Faculty of this institution one of the most able, high-minded, and devoted bodies of teachers which this country knows,—men who will give you resolutely and heartily their service as teachers and as

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officers. You will find also a body of alumni devoted to the Institute, to its service, and to its future. From them you may expect confidently sincere and hearty support. As to the student body,—and I find it difficult to speak of the student body without some feeling,—as to the great body of undergraduates, ever disappearing, ever being renewed, gathered from every State and from very many foreign countries, these make up the composite American youth,—a youth of high purpose, of true devotion, of hearty comradeship. To be associated with this body of students, to know them day by day, to join in their social gatherings, in their sports, and in their work, is the greatest pleasure which can come to any college president. I envy you this more than any other thing that is to come to you in your presidency, and it is the loss of this which I have felt more than any other one thing in leaving the Institute of Technology. I meet in my present situation month by month and year by year, in a temporary and casual way, the student bodies of many colleges and of many universities all over English-speaking North America. The experience is a most interesting and illuminating one, but it does not supply in one's life the intimacy between a college president and his own student body. I commend to you, Mr. President, the friendship and the comradeship of the students of Technology.

Guardian of Technology Spirit

James P. Munroe, former president of the Alumni Association extended the welcome of the alumni to the new President, saying in part:—

In the forty-one years since the first class at the Institute was graduated, electricity, chemistry, the gases and mysterious ethers have revolutionized the arts, the industries, the professions, life and thought itself. Primarily agricultural, we have become in that time leaders in manufacturing. We have begun to make real use of our original vast territory and to explore immense new possessions in the Far North-west. Through commerce, invention, wealth, travel, education, through bitter political trials and high moral experiences, we have found ourselves as a people, and have taken our seat among the great nations of the earth.

In this amazing growth, during this most significant of generations, the Institute of Technology has taken an active and a leading part. Local in her origin, she has become a national name and influence. A pioneer in laboratory teaching, she has been largely concerned in the readjustment

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of all education. Herself painfully poor, she has added, through her children, uncounted millions to the riches of the world. Those children have found and wrought metals; have fashioned them into railways, steamships, bridges, buildings and machines; have conceived new processes of industry and have perfected old ones; have guarded and preserved the public health; have solved riddle after riddle of the sphinx of nature; have applied those solutions to the expanding needs of daily life; and, above all, have given high and unselfish service as citizens and men.

This they have done through no inherent or individual virtue. They have succeeded, materially and morally, because the pursuit of science compels devotion to certain fundamental things, and because this Institute of Technology has held herself true and has held her children true to those high ideals of education and of life.

It is superfluous to enumerate those ideals, it would be impertinent to try to define a quality so elusive as the Technology spirit which they have produced. That spirit is behind this week's reunion, is the power which, scattered as we alumni are, welds us together in real brotherhood, is the force that, if kept active, will always hold the Institute first among great equals in the work she has to do.

Then, turning to President Maclaurin, he said:—

Of this Technology spirit you, sir, are the appointed guardian. The Institute Corporation, under state authority, gives you today certain definite powers and responsibilities. With no less solemnity and with hardly less authority, we of the alumni place at the same time in your keeping this intangible force which, we believe, is the essential soul of Technology. This spirit has a noble lineage. Breathed into the institution by its matchless founder, William Barton Rogers, fostered by the great traditions of this Commonwealth, nurtured by the devotion of such a body of teachers as few other colleges have ever known, maintained by the actual life-blood of Francis Walker and by the kindred sacrifices of a long line of splendid leaders, the Technology spirit permeates today not only the Institute itself, but also the very fibre of her ten thousand sons.

These sons are still young, three-fourths of them too young to bring to the Alma Mater great sums of money or the cautious conservatism of well-ripened years. But they come with contributions vital at the present time. They bring, for example, the visions of young men. They see an Institute of Technology placed on an ample campus, with harmonious buildings adequate in size and in equipment. They see those buildings

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used for teaching day and night throughout the year. They see therein complete research departments adding to the treasures of science and at the same time placing that knowledge at the service of the State. They see the grave social problems of student life properly provided for. And beneath this new Technology they perceive, unchanged, those corner-stones of ordered seriousness, of quiet self-effacement, of scholarly breadth and of unflinching truth which its great builders have from the beginning laid.

To help you and your colleagues make these visions real, those sons bring also vigor, enthusiasm, world-wide experience of modern industrial needs and the force of numbers working intelligently towards a common end. Above all, they bring to you that loyalty which, like patriotism to a nation, is the most precious possession of a university. Whether as members of a Corporation which is an example of unselfish service, whether as members of a Faculty which by labors and sacrifices that it alone can know has kept the standards high and true, whether in the north, south, east or west, in Europe, Asia or the islands of the sea, those past students come, like the Scottish clans of old, bringing whole-heartedly to their chieftain fealty to him as their leader, profound and undying devotion to the cause in which he leads.

Greetings from Harvard

President A. Lawrence Lowell, of Harvard, was greeted with applause, culminating in the M. I. T. cheer, ending with "Lowell! Lowell! Lowell!" President Lowell said that within a radius of a few miles of this spot are a million people. The natural resources of New England are small compared with some other sections.

And yet [he said] I believe it would be hard to find any other spot in the whole world where the comfort and the standard of living are so high. Our success has been due to the intellectual and moral education of our people. It is with reason, therefore, that we can speak of education as our most important industry. The achievements of the Massachusetts Institute of Technology have been great,—greater even than the public is aware. Not only does the Institute each year send out its young men to place their skilled services at the disposal of the world, but the number of her Faculty have constantly—and often without remuneration—been solving problems which contribute materially to our welfare and the progress of the world. Absorbed in their work, the modesty of the professors

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has in a measure obscured the reputation of the institution of which they form a part. Higher education is of necessity unselfish, and it is well that it is so. Education is twice blessed. It is fitting that Technology's new President should apply here the education which he has taught in two countries and acquired in a third. It is my privilege to give to you, sir [turning to President Maclaurin], the greetings of the university across the river. [Applause.] We extend to you the right hand of fellowship, and wish you every success. May I add a personal word of congratulation upon your acceptance of the great trust confided to your hands. [Applause.]

Ambassador Bryce's Address

Another cheer was given for President Lowell as he sat down, and then Mr. Fish introduced Right Honorable James Bryce, who wore the red gown of Oxford. As he came forward to speak, the applause was tumultuous, and the cheer with "three long Bryces" was given.

There are four reasons [he said] which bring me here today besides the sympathy which I have, and which every one who has watched the progress of scientific instruction must have, with this Institute and the splendid work which it has done. One of these reasons is that Dr. Maclaurin, whom you are installing as President, is a Briton; the second is that he is a Scotchman; the third is that he is a lawyer and a member of the same ancient legal society—Lincoln's Inn—as that to which I have the honor to belong; and the fourth is that he is a distinguished man of science to whom on behalf of my country I have to give hearty good wishes for his new work. He is one of those who have got to know the British empire as a whole and whom we should be sorry to part with to any other country except the United States, for as to the United States, I need not tell you, we don't feel that any one who leaves us is lost to us. It is a real benefit to any man who is undertaking a high educational position that he should have been all over the world, as Dr. Maclaurin has been. To know Canada and New Zealand and Germany and a great Old World university like Cambridge and two of your greatest American universities here is to know a great deal of consequence for practical work. It is also a real benefit to any college president to have a mastery of law, not merely because it helps him to fight for the interests of his institution,—and to know how far on each occasion it is wise to fight is quite as important,—but also

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because it gives him a grasp of a kind of reasoning and a set of principles different from those which have to be applied in scientific teaching, and a comprehension of which, therefore, enlarges his mental grasp and his capacity for affairs.

It, as it is said in Scripture, is always a little dangerous to congratulate a man who is putting on his armor, as we should a man who is putting it off, but in this case what Dr. Maclaurin has already accomplished justifies us in forming the brightest auguries for his future career in this high post to which you have called him.

We Englishmen and Scotchmen may be sorry that he is not serving our country in one of the new institutions which we have lately founded to try to make up for lost time in the promotion of scientific instruction. But a scientific inquirer and teacher helps the whole world by the work which he does anywhere in it, and, as you know, British students have been so long accustomed to come for first-rate teaching to this Institute of yours that we cannot but feel deeply interested in its prosperity. Between you and us there has always been a free trade in men. Though you do put an import duty on books, which are the vehicle of ideas, you have set no protective tariff on ideas themselves nor upon the men who produce them.

I am glad to think that a man from Scotland and from the University of Cambridge has been chosen by you to succeed the illustrious and distinguished line of previous heads of this Institute,—a list which includes not only President Rogers and my valued friend, General Walker, whom we all mourn, but one whom we are glad to have with us in the full vigor of his powers, Mr. Pritchett.

As the Institute has grown to be virtually a scientific university, it is of supreme importance that the instruction it gives should be such as to fit a man not only for practical work in such branches as engineering and the chemical arts, but also to enable him to draw from his mastery both of theoretical and of applied science all the breadth of view and all the stimulation to independent thinking which a university ought to give. Personally, I have long felt that every man who pursues the human sciences, such as ethics, politics and history, ought to have a comprehension of at least one branch of natural science and its methods. Similarly, the man who devotes himself to scientific work ought to have a knowledge of language and some acquaintance at least with the field of abstract thought and the methods of historical inquiry. I have been glad to learn that

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this view is held in the Institute, and believe that Dr. Maclaurin will be in the fullest sympathy with it.

One word more to express the cordial good wishes for the future of this magnificent institution which must be in the thoughts of all who see what science is accomplishing for the modern world. Science is king today. It is to the application of science that we owe the vast increase in the production of all commodities useful for life, the wonderful acceleration of transportation and communication, the stupendous growth of wealth.

We are indeed often reminded that it has now become not so important to have more wealth as to distribute it equally and to learn how to use it wisely. Whatever truth there is in that reflection does not reduce the value of the work that is being done and to be done here. To enlarge not only our knowledge of natural forces, but our power of turning them to account, to make all work more and more an exercise of intelligence, and therefore enjoyable, this is an unmixed benefit to every class in the community; and to what you are effecting here towards these ends we give you hearty sympathy.

Welcome to the New President

Arthur A. Noyes, chairman of the Faculty, spoke of the form of education for which the Institute stands:—

In welcoming Dr. Maclaurin to the presidency of the Massachusetts Institute of Technology on behalf of its Faculty, it seems appropriate that I take as the theme of my few remarks the form of education which that institution has come to typify. If, in doing so, I give prominence to some of its advantages, this is not to be regarded as reflecting unfavorably upon other systems of higher education. On the contrary, it is, I think, a subject for congratulation that the educational efforts of this country have not become conventionalized in a single direction or even in two or three directions. It is fortunate that our institutions of higher learning are so diversified as to afford to young men and women with different aptitudes and with different aims in life a wide choice as to the character of their training. This diversity is, moreover, advantageous in another respect. Just as the existence of our forty-six state governments makes it possible to try important political experiments without seriously affecting in the case of failure the welfare of the country as a whole, so the existence of our numerous colleges, universities, and scientific schools, with their differently organized

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systems of instruction, enables educational methods to be thoroughly tested upon a limited scale, after which those proved by the results to be the most successful can be generally adopted. It is important, to be sure, that closer relations be established between the different institutions than exist at present, in order that each may profit from the experience of the other, and thereby improve the details of its own methods of instruction without sacrificing the essential features of its system; and it is, therefore, auspicious for this institution that one of the speakers at these inauguration exercises is the president of Harvard University, to whom, in conjunction with the new president of the Institute, many opportunities will be afforded for co-operative effort in solving the educational problems of this State and country, and that another of the speakers is the president of the Carnegie Foundation for the Advancement of Teaching, which has adopted as one of its chief functions the better co-ordination of the work of the collegiate institutions of this continent.

Yet, while recognizing the advantages of co-operation and co-ordination, the still greater importance of maintaining and developing separately each type of education which experience has shown to be effective must not be overlooked. To this end the salient features of each type must be kept in view, and it therefore seems appropriate to consider briefly the characteristics of the Institute type.

It is one of those characteristics that, from the beginning to the end of the period of study, a definite aim is kept before the student, and that the character and sequence of his studies are prescribed in such a manner as will best lead to the desired end. The student selects at the beginning of his second year, in accordance with his tastes and aptitudes, the profession for which he desires to prepare himself; but the Faculty then determines in large measure the studies which are best adapted to fit him for his life-work. We believe that unlimited freedom of choice commonly has one or two unfortunate consequences. It either results in superficiality instead of soundness of training, in cases where the student without definite aim pursues a great variety of elementary courses, or it results in a narrowness of professional knowledge instead of a breadth of culture, in cases where the student is intent on specialization.

A second characteristic is that the courses of study at the Institute are planned in the belief that the three sides of education expressed by the words "knowledge," "mental training," and "culture" must go hand in hand, each being kept steadily in view throughout the whole period of study. Especial emphasis, however, is laid on the principle that the training of the

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mind and the formation of sound habits of thought and of work must be the main object striven for in the earlier years of that period. The Institute typifies the idea, so well expressed by one of our great American psychologists, that "the man who has daily inured himself to habits of concentrated attention, energetic exercise of will, and self-denial in unnecessary things, will stand like a tower when everything rocks around him and when his softer fellow-mortals are winnowed like chaff in the blast." On the other hand, it holds that the breadth of view and liberality of judgment which constitute culture must be acquired gradually, as the student advances in maturity and experience, and that this is done more naturally in his later than in his earlier years, and more effectively by individual influence and personal contact than by attendance in large classes at a variety of lecture courses on those subjects which through the traditions of education have come to be regarded as the main sources of liberal culture. Thus in this respect the system of education of the Institute stands in sharp contrast with that of many of our eastern universities, of which the principle is that a general cultural education given in the college shall precede the strictly professional training of the graduate school.

The Institute lays, thirdly, special emphasis on the study of science; for training in scientific method and acquirement of the scientific spirit are considered to be not only essentials to professional success, but fundamental elements in culture and in life. To the question, What knowledge is of most worth? we answer, as did Herbert Spencer fifty years ago, *Science*. With him we hold that "for discipline as well as for guidance, for intellectual as well as for moral training, the study of science properly pursued is of chiefest value." We believe that, when fifty years hence there shall be written, with the clearer perspective that time will bring, the history of the world's progress during the preceding century, it will be not mainly a record of the doings of governments, but rather a study of the influence of science upon the development of human thought and human welfare. We, therefore, aim to give our students such a scientific training as will make them *efficient* in promoting the advancement of science and its applications to the useful and the liberal arts.

Efficiency is the keynote of the Institute's system of education; but at the same time we do not underestimate the significance of *culture*. We recognize the value of studies in history, literature, language and art, by making them an important part of the work of every regular student; but we hold that, "as these pursuits occupy the leisure part of life, so they should occupy the leisure part of education."

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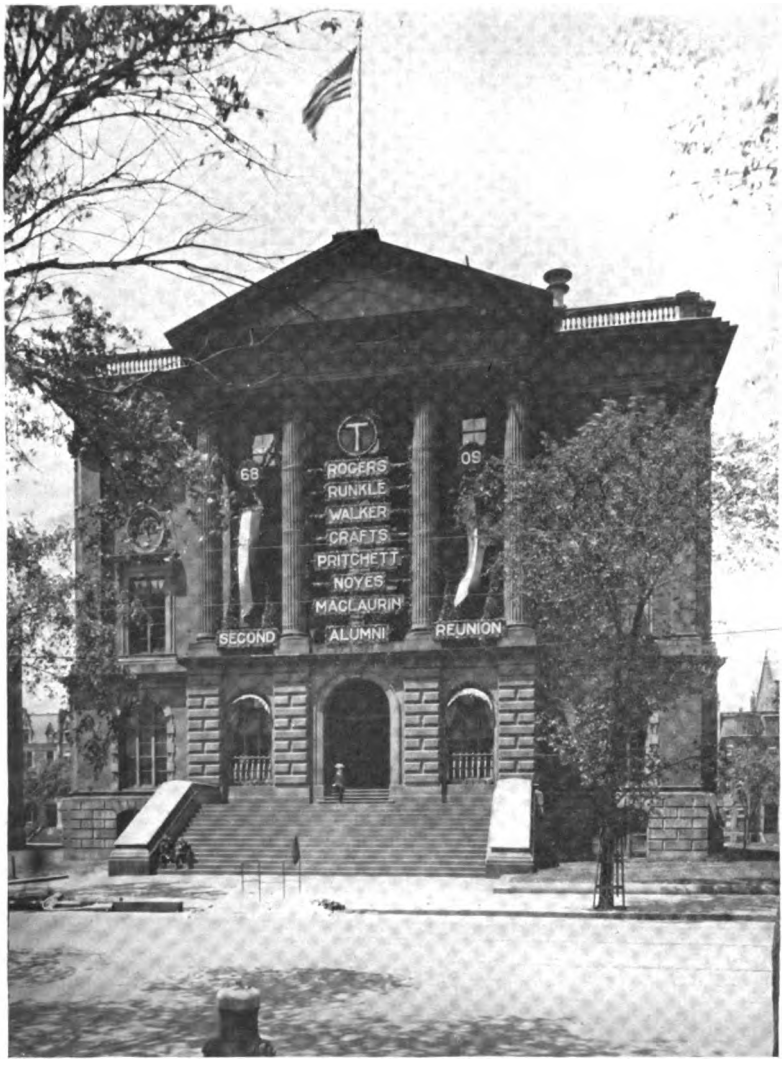

WHEREVER THE NEW HOME OF THE INSTITUTE MAY BE, THIS BUILDING SHOULD ALWAYS REMAIN AS A MEMORIAL TO PRESIDENT ROGERS IN THE HEART OF BOSTON AND IN THE HEART OF EVERY ALUMNUS

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Grand Banquet at Symphony Hall

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Finally, in conformity with these educational ideals, there have been developed at the Institute conditions of student life from which there has resulted a more duly proportioned division of time and interest between the studies and the social and athletic activities of students than prevails at many colleges. The standard of scholarship which the Faculty demands of its students is inconsistent with an excessive devotion to outside pursuits and with undue subordination of the intellectual to the physical and social interests. Yet the student life of the Institute at the present time affords abundant opportunity for recreation and good fellowship and for the cultivation of athletic, literary, artistic and professional activities. Indeed, the soundness of its student life and the fine spirit of its students are properly counted among its chief advantages, and should be one of its main attractions as a place of study to right-minded young men.

This characterization of the Institute will, I think, serve to show that scientific schools of its type occupy a unique position in the American system of higher education, and that they represent certain educational ideals whose fuller development is of great importance to the welfare of this country. We are to-day assembled to take part in the inauguration as President of one of these institutions of the man who is to serve as the leader in its development, of a man who has shown himself to be in hearty sympathy with the ideals of the Institute and ready to work earnestly for their fuller realization. Supported, as he will be, in this undertaking by the cordial and energetic co-operation of his associates of the Corporation and of the Faculty and of the members of its Alumni Association and of its student body, we may feel confident that among the institutions of higher learning the Massachusetts Institute of Technology will continue to hold in the future the high position which it has won for itself in the past.

President Maclaurin's Address

"We have found a man," said Mr. Fish, in introducing President Maclaurin. His introduction was short, briefly outlining the record of the new head of the institution and ending with a hopeful prophecy of success for him. As President Maclaurin, wearing his Cambridge gown of black and red, came to the front, the cheering section at once became busy, and three times three cheers for Maclaurin followed the M. I. T. cheer. Applause rose to a storm, and a smile stole over the strong, thin features of the youthful

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appearing head of Tech, as he bowed to the audience and the guests on the platform. Again "nine long Maclaurins" came from the leather-lunged and stormy-voiced Tech graduates in front. Waiting a minute until the applause ceased, President Maclaurin in a well-modulated voice delivered his inaugural. He spoke as follows:—

My first duty is to express my appreciation of the honor conferred on me by election to the presidency of this great Institute and my thanks to those representative citizens who have so warmly and so gracefully bidden me welcome to the inspiring task that lies before me. The task, as has been suggested, is no easy one, and I should be oppressed by my inability to cope with it, did I not feel strong in the loyal and enthusiastic support of the Faculty and the alumni, indeed of all who have the welfare of the Institute at heart.

Now on an occasion such as this I might perhaps be expected to say something as to the policy of the Institute and the plans for its future development, in so far as I have any influence on the formation of such a policy and such plans. I refrain from doing this, however, if for no other reason than that I recognize that promise and performance are often somewhat different things, and I do not wish to invite any inconvenient comparisons in the future. All that seems necessary to do is to assure you that I shall do my best, and that, as I heartily approve of the broad lines of the policy that has been established by my very distinguished predecessors, any marked departure from that policy will not be due to my initiative.

As, however, I am necessarily somewhat of a stranger to you, it seems not inappropriate that I should give some indication of my creed as an educator, and so reveal the ideal that I should like to see made real in this Institute. The creed has, at any rate, the merit of brevity. It can easily be stated for present purposes in three or four articles.

I. The first article is one that is common to almost every modern creed, and is to the effect that the end of education is to fit men to deal with the affairs of life honestly, intelligently and efficiently. That, like many another commonplace in creeds, is one that is almost deliberately ignored in much of common practice. It should be applied thoughtfully and rigorously as a test of every element in the scheme of your educational system. We must try to fit man for life, and for life that is as abundant and complete as possible. We must have due regard to professional skill, but especially in such an Institute as this must we avoid the danger of supposing that we

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have to think only of a man's professional equipment. Clearly, no man can be merely an engineer or an architect or a professor. He owes other duties to society that are in no sense inferior. In the relations of domestic life or in the larger family of a city or a State he must constantly move and act. In these spheres, powers must be exercised that may require cultivation and training just as much as any others, and, if a student has not brought them up to a reasonable standard of excellence, then, whatever be his professional skill, he is no more than an ill-educated man.

II. My second article is that, in the higher education of a large and increasing section of the community, science should play a very prominent, if not a leading, part. Many a fierce battle has been waged during the operation of scene shifting in the great theatre of education. Those who were schooled exclusively in the "older learning" had it so long their own way that they come naturally to regard themselves as Levites in charge of the ark of culture and to look upon any criticism as an unwarrantable intrusion not worthy of their serious attention. However, in due time the champions of modern literature and humanism became strong enough to issue a challenge, and in the fight that ensued many a hard blow had already been struck, when the fray was complicated by the advent of a somewhat ragged army with "modern science" on its banner. The noise and din of the battle have well-nigh died away by this time, although occasionally a belated combatant fires a shot or shouts derision at an enemy, real or imagined. In general, however, it has come to be recognized as absurd to set up a claim to the monopoly of culture, if I may be permitted to use that much-abused word widely for breadth and openness of mind and sanity of judgment. Native capacities and tastes vary enormously, and culture may be reached by many roads. Admitting this quite frankly, I repeat that science should play a very important part in the education of a large and increasing section of the community. In saying this, I am not now thinking of the specialist, to whom science is a necessity of his profession. I am thinking, rather, of any one who is to take an active and intelligent part in the world of affairs today, whether in business or in public life. Science has already profoundly changed the conditions of our life, and it may not be so very long until its method and its spirit permeate our modes of business and of government. It must even now be very difficult for a man who has not acquired the scientific habit of mind by serious scientific study to free himself entirely from mediævalism and be a really modern man. For we have to remember that "not only is our daily life shaped by science, not only does the prosperity of millions depend upon it, but our whole

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theory of life is being profoundly influenced, consciously or unconsciously, by the general conceptions that science has forced upon us."

Apart from this it is scarcely necessary to emphasize the claims of science in an Institute like this which devotes so large a share of its attention to the training of men to deal successfully with those great problems of production and distribution which the energy of a great industrial nation makes of paramount importance. Today it is common knowledge that those are mainly scientific problems, although half a century ago, when this Institute was founded, it was only the far-seeing that had any glimpse of this, and very few among these that had any adequate conception of the mighty change that science would effect in the industrial problems of the world. Where such matters are concerned, energy, courage and doggedness are no longer enough as they once were to win the fight. With science they profit nothing, and are no more availing by themselves than is the dauntless courage of the savage in the face of a modern gun.

The quickness with which the different nations grasped this vital fact might be used as a touchstone of their intelligence, and it is almost pathetic to observe the bewilderment of some of them who are just awakening to the knowledge that they must even now face a new heaven and a new earth. Massachusetts may congratulate itself on having been amongst the first to foresee the change, but I hope that this will not induce any disposition to rest and be thankful for the wisdom of our forefathers. Here it cannot be necessary to remind you that the terrible battle of competition between men and between nations is no passing phenomenon. It does not depend on conditions that are transitory, but, on the contrary, on those that are permanent and that must always make for keener competition. The only chance of survival is resolutely to throw away all weapons except the best (*i.e.*, the most scientific), and the only hope for long life is not merely to be strong and well armed, but to be able to keep in that condition. For this end we must train our young men with a view to the future, and, as no one can foresee what a generation will bring about, our only hope of safety is to imbue them thoroughly with those fundamental principles of science and its applications that are permanent and that can be put to any need that may arise, and not to take up too much time over those details of the professional practice of today that may not improbably be antiquated tomorrow.

III. Next we should constantly bear in mind that science and culture must be combined; *i.e.*, the two must go hand in hand, science being studied and taught in such a way as to make for that broad and liberal outlook

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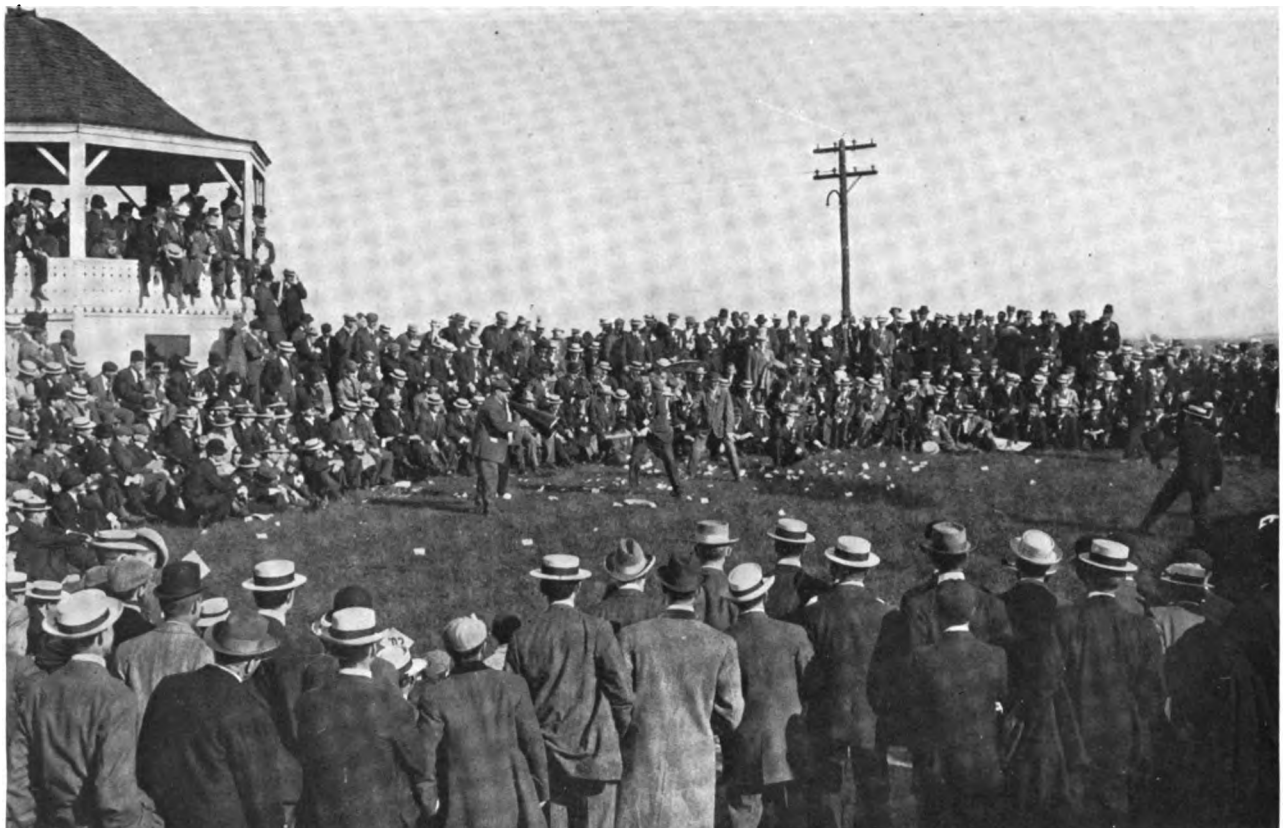

No. 6*a*. The Ball Game at Nahant

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No. 28. The "Myles Standish" approaching Nantasket

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on the world that is the mark of a really cultured man. I hope that it is not necessary to stop to argue with any one who thinks that science is quite incompetent to the task, for such a survival of mediævalism must surely be very rare today. I take it that the root of culture, in any worthy sense of that term, is the possession of an ideal broad enough to form the basis for a sane criticism of life. What study is most conducive to this end is a question on which there is sure to be much difference of opinion, but I suspect that the subject-matter of the study is far from the most important element in the problem. We have only to think of the unpromising materials from which our forefathers often derived such real culture to be confirmed in this suspicion, and to lean towards the opinion that it is the how rather than the what of study that makes for culture. If this be true, then it is vastly important, for it enables us to solve one of the most difficult questions that presents itself in education. We cannot indulge in high-flown schemes of general culture, for here, as everywhere else, the avenue to success is limitation. The practical question is, How to limit? The plausible and the popular solution is that a man should be guided by his aptitudes, and by what those aptitudes should determine,—his special calling in life. Here I believe that, for once, the plausible and the popular is entirely right. It seems to me obvious that a man should try to keep closely to what will be most useful to him in life, the only qualification—and of course it is an important one—being that the adjective "useful" must not be construed in any narrow sense. It is owing to this qualification that it appears absurd to allow almost complete freedom of choice to a mere youth, whose outlook on life is not wide enough to suggest the wisest choice. I see no reason, however, why a man should spend his time in so-called "useless" studies for the sake of mental discipline and culture if he can gain these excellent things in studies that are more "useful" in his calling, no more than I see why a business man should not take his exercise in walking towards his office rather than in some other direction. There may, of course, be several roads to his office, and it may be that the shortest is not the best, for it may bring him there out of breath or otherwise so disabled that he is unfit for business for half the morning. Especially, when he is new to the city, will he profit enormously by the companionship of an accomplished man who can direct his attention to the real attractions of the way. It is, of course, highly important to have men that can do this well, and so at the Institute and other similar places we must have men of high rank and wide outlook who can keep the highest ideals constantly before the student. They must be men who can command the respect not only of the students, but of the

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whole community in which they live,—men such as are to be found at the best Technical Institutes in Paris and Berlin, who neither in their international reputation as men of science nor in the esteem in which they are held locally nor in the emoluments of their office are one whit behind those in the more ancient seats of learning.

We need such broad men as professors on our staff for the reasons that I have indicated and because of the incalculable value of breadth of view and freedom from prejudice to the leader in engineering and industrial pursuits. But there are other reasons than these. It is true that the first and obvious duty of such an Institute as this is to train men for certain professions, and particularly for those professions in which science plays a leading part. It should, however, do more than this. It should take its share in the great work of getting the nation imbued with the scientific spirit. For this purpose the schools of applied science are strategic points of the highest value. If you can show people the "practical" value of science (in the narrow sense of that ill-used adjective), if you can demonstrate that it makes for healthier and fuller life, for greater prosperity and greater happiness, then you will have some chance of directing their attention to its other aspects. And this suggests another purpose that the Institute should serve. It should train men to extend the bounds of knowledge, not only in the applications of science to industry, but in any direction in which they see opportunity of extending them. I believe that association with "practical" studies is one of the best things even for the so-called unpractical man, who intends to deal mainly with the most abstract researches. Galileo made telescopes, Newton learned practical mechanics, Leibnitz invented machines, Kelvin laid cables. And so it should cause no surprise that, when we bear in mind the size of this Institute and take account of the youthfulness of its graduates (remembering that only a small proportion of them have yet passed middle life), we find that its alumni have contributed a full share of pure scientific work of the first rank in astronomy, in chemistry, in biology, and in other departments of learning. I hope that it will always be so; but, to make this possible, a continuance of front rank men on our staff is a necessity of our being. . . .

But of course there are other things than studies to be considered. Above all, we must preserve in our students the freshness and vigor of youth, and see to it with all care that their natural powers of initiative are improved, and not checked by our training. Outside the class-room we can do this best by encouraging a rational system of athletics and a rational social life. In Xenophon we were told that "to ride horseback and to speak the truth"

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were considered the two essentials in the education of a Persian gentleman, and I can well believe that many more elaborate modern systems of education are much less liberal. Fortunately, it is now becoming generally recognized that a sound body is the basis of a sound mind and of sound morals, and that men play the game of life better for what they learn in manly contests manfully conducted. It is of course deplorable, if true, that the cult of mere athleticism seems to be eating like a canker into the college life of this country just as of some older ones, but there is comparatively little danger of this abuse of a thing so intrinsically good in an Institute of Technology. Here, however, we need opportunities not only for athletics properly conducted, but for a healthy social life among the students. Success in practical life is clearly not dependent wholly or even mainly on knowledge, unless you use the term so widely as to include the knowledge of men and of the world. It is common experience here, as in the older world, that the men who make the greatest mark are often those that were quite unhonored in the schools. At Oxford or at Cambridge they pursued "a little learning and probably much more boating," but, whatever their shortcomings in the class-room, they received a wholesome and a manly training from the other influences that were brought to bear in their social life. A great and learned cardinal of the Catholic Church (that Church which has been so rich in men with profound human insight) said that, if he had to choose between sending a young man to a university which made no provision for social life among its students, and gave its degrees to any person who passed an examination in a wide range of subjects,—if he had to choose between such a university and one that had no professor or examinations at all, but merely brought a number of young men together three or four years,—if he had to determine which of the two would be the more successful in training, moulding, enlarging the mind, which would send out men the better fitted for their secular duties, which would produce the better public men, men whose names would descend with honor to posterity, he would have no hesitation in giving the preference to that university which simply did nothing. Well, clearly we cannot make architects and engineers by doing nothing. Work, and hard work, too, must always be the leading feature of a technical institute; but I see not the slightest reason why we should not have all the advantages of a rational social life among the students and work as hard as ever. Work is perhaps the one thing needful to check those abuses of the social side of college life which no one who speaks with any real knowledge can fail to recognize as all too common. In social matters, tradition is all-power-

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ful, and we are fortunate above all else at the Institute in having a tradition that is thoroughly wholesome. There is a tradition of seriousness of purpose and hard work, and there is little or no tendency to set up a wall of caste which is not an inconspicuous feature in the college life of the older world and may perhaps be observed even here, and which, if allowed to stand, is a menace to true citizenship and true democracy.

Well, the recital of my creed is done. I have come to Massachusetts a stranger; but I scarcely feel like one, so warmly have I been welcomed on every side. I recognize, of course, that this is not a personal matter (or I should not mention it here), but that the welcome represents the good will of the community to the great Institute of which we are all thinking today. I have had many opportunities elsewhere of learning of its national and international reputation, and I feel sure that it needs no appeal from me to arouse this State to a sense of its value, for public as well as for private service. Born in a period of unexampled national struggle, it has been by a process of continuous struggle that it has made for itself a unique position. It is impossible to know its history and not be stirred by admiration for the greatness of soul of its founders and for the pertinacity and courage of those who have worked so steadily and so unobtrusively in the intervening years to maintain its great traditions and compel respect for it. Rogers who planned it, and Governor Andrew who so warmly befriended it and who insisted so strongly that it should be started out on a broad gauge, were no ordinary men; and it is because I believe that the spirit of such men still lives in the community that I have every confidence that it will not now be allowed to languish through any narrow and unworthy view of its purpose and destiny.

The Automobile Trip

The automobile trip for out-of-town alumni and guests on Monday afternoon, June 7, was successfully engineered by A. P. Underhill ('96), assisted by Kenneth Blake ('99) and Lucius Tyler ('97). As the Ancient and Honorable Artillery was parading in Copley Square, the machines rendezvoused in Newbury Street, back of the Institute Buildings. More than a hundred automobiles were on hand, each one bearing a knot of Tech colors. The parties were sent in diverse directions to avoid dust, and, as the day was a perfect one, the visitors had a delightful time.

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THE GOVERNOR'S RECEPTION

The reception by the Governor and Mrs. Draper to the President and the alumni on the evening of June 7 brought together a brilliant assemblage of between two and three thousand alumni and prominent citizens of Boston. The State House was ablaze with light, and from 8.30 until 10 o'clock there was an endless stream of carriages and automobiles bringing alumni, their wives and friends.

It was promptly 8.30 o'clock when Governor Draper, with Mrs. William Rogers, widow of the first President of Technology, headed the line from the Executive Chamber, escorted by Sergeant-at-Arms Remington. Following them came President Richard C. Maclaurin and Mrs. Draper.

The receiving party took their position on the east side of the Hall of Flags, attended by members of the Governor's staff.

Conspicuous among the visitors were President A. Lawrence Lowell, of Harvard University, and British Ambassador and Mrs. Bryce. Invitations had been extended to members of the legislature, and many of them were scattered through the crowd which filled the spacious hall.

Professor W. T. Sedgwick acted for the Reunion Committee as chairman of the Committee of Arrangements, and he was assisted by Dr. S. J. Mixter ('75), Franklin W. Hobbs ('89), S. Parker Bremer ('93), Montgomery Rollins ('88), Arthur Anthony ('86), Ernest Bowditch ('69), Edward Cunningham ('91), Dr. Percival Lowell, W. C. Fish ('87), E. C. Hultmann ('96), A. D. Fuller ('95), E. C. Miller ('79), Benjamin Russell ('98), B. E. Schlesinger ('01), Guy C. Emerson ('89), W. B. Douglass ('92), F. A. Pickernell ('85), L. O. Towne ('78), Stephen Child ('88), F. C. Green ('95), Professor W. E. Mott ('89), F. H. Briggs ('81), H. P. Spaulding ('92), Professor S. C. Prescott ('94), Professor H. W. Hayward ('96), Giles Taintor ('87), John C. Abbott ('93), F. F. Phinney ('93), Frank Doliber ('97).

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THE JUBILEE SMOKER

A Social Time at the Boston City Club—Dr. Maclaurin and Governor Draper make Short Speeches

Perhaps the most rollicking, jolly evening of the reunion was the jubilee smoker held at the Boston City Club Monday night, in which about a thousand men participated. The entire club-house on Beacon Street was turned over to the Institute alumni, and an entertainment committee, with John A. Curtin ('92) as chief instigator, had prepared a vaudeville entertainment in the auditorium on the third floor.

Various impromptu class and clique reunions were held during the evening in the private dining-rooms of the floors below, where refreshments were served.

The entertainment began at 9.30 o'clock with a very excellent exhibition of impersonation by Frank Stafford, of B. F. Keith's circuit. He was followed by Henry Clive in sleight-of-hand tricks, and M. Wood, clog dancer, both of Keith's. W. E. Spalding ('85), a member of the first Tech minstrels, was the only Tech man to give an individual stunt. He did some most finished work with the bones, and his performance was encored vociferously. The Bostonian Quartet gave several selections.

The Institute undergraduate orchestra furnished music for the occasion, and each performer was greeted with the rollicking reunion slogan, following the exclamation, "Who is that man?"

> "He's a bold, bad man and a desperado;
> He came to town on a wild tornado,
> And he rolled around like a gay gazabo;
> And every time he took a drink, 'twas—Zip! Wowwww!"

the last words being yelled to the accompaniment of a frantic crash of the orchestral pieces.

Dr. Charles D. Underhill ('86) led the cheering, and also officiated

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with the bâton on the singing of the familiar Tech songs and other old favorites.

When the enthusiasm was at its highest pitch, Governor Draper and President Maclaurin, arriving from the reception at the State House, entered the hall together. Upon their appearance, pandemonium was let loose, and the new arrivals were given a noisy M. I. T. cheer. Each spoke briefly as "Tech men," and entered into the spirit of the occasion apparently with as little effort as the others.

Following the entertainment, old friendships were renewed and old stories revived until a late hour, the last groups leaving the club-house long after the midnight bell.

Mr. Curtin's assistants on the committee were Leonard C. Wason ('91), Walter B. Douglass ('92), William F. Lamb ('93), Richard Waterman ('92), F. W. Hobbs ('89), James S. Newton ('90), Gorham Dana ('92), George H. Ingraham ('92), James T. Baldwin ('90).

Are You With Us?

If you are not a member of the Alumni Association, we need you! The Association has grown very strong, but we want *every man*. It costs an additional thousand dollars to send the REVIEW to every former student, but we feel that this issue will carry enough of the spirit of the New Technology to enlist the hearty interest of many to whom the new order of things will be a happy revelation.

A Word to '09

Wherever you locate, identify yourself with the local Technology Association, if there is one, and, if not, get the near-by Tech men together and tell them about the Reunion and what the Institute is like today. It is up to the younger crowd to keep the associations lively.

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DAY OF THE CLASSES

The Get-together Feature of the Day at Nahant was most Pleasing—'68 wins the Ball Game—A Happy Day

After the dignified functions of Monday, the Day of the Classes offered an opportunity for the men to unbend, and the way they loosened up would give a nerve specialist points on relaxation.

The "Governor Andrew," which took the men to Nahant, left a few minutes after the schedule time, and was packed to the sub-cellar with a gala assortment of Tech men, who were as pleased as Punch with themselves, the day, the boat, the zenith and the horizon, the moment of inertia, the modulus of elasticity, and the frying-pan din-makers that would send the men in a boiler factory crazy.

The Waltham Band accompanied the excursionists, and there was a continuous song service until the boat reached Nahant. The boat committee provided a humorous programme descriptive of the features of the trip, and there was a genuine wireless outfit on the boat on which messages were sent and received. The blanks read "Tech Reunion Wireless Telegraph Co., Boston and Nahant. Back Jins, manager, and C. Q. D., operator."

Messages were sent through the courtesy of the Boston Post wireless station to Governor Draper, President Maclaurin and a number of prominent officials. Charlie Peirce was the recipient of much attention from acquaintances on shore. His first message, replying to a Harvard friend, was as follows: "We are off. Tech looks good to me. To —— with Harvard."

Accompanying "Governor Andrew" was the steam yacht "Tech," owned by Colonel T. C. du Pont, ('84), which was placed at the disposal of his class, which was celebrating its twenty-fifth anniversary, and the "Wacondah," owned by Colonel Charles Hayden ('90), carrying the guests of the day. As the boats approached Nahant, they were greeted by fusillades of artillery bombs, and high in the air were great kites carrying a welcome to the excursionists from

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No. 31. Band playing Procession by

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No. 61. President Maclaurin saluting the Oldest and Youngest Living Graduate

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the members of the class of '94, who had gone to Nahant the preceding day to celebrate their crystal wedding anniversary and to loosen up things for the larger crowd.

As the throng streamed up from the boat with banners, Japanese sunshades, signs more or less relevant, and a pandemonium of noise, it was greeted by wild cheers from '94, and the response that followed awoke the echoes of that quiet summer resort in a way that is said to have lowered the rents for the rest of the summer. On embarking, each man had exchanged his ticket for a colored tag which he wore conspicuously. The tags corresponded with the colors adopted by the various hotels, and signs clearly showed where each class was to dine. The men went into dinner soon after arriving, and so well had the committee made arrangements that the seating plan was perfect.

Everywhere one looked, on the wharf, the boat and at Nahant, the eye was greeted by humorous signs, such as "The rest came by boat, but Peter Schwamb," "If you don't get what you want, petition the Faculty," "Has Mac seen Eliot?" "Beware of the dog. Carlo Bites!"

The shore dinner was no Sunday school performance, the jollity, however, being confined to vocal demonstration. Some of the classes were able to do a little class business, but the spirit of holiday gayety was in the air and predominated everything. After dinner the men at the Bass Point House, headed by a band, started a snake-walk march to the Relay House, and, there being joined by the rest of the crowd, returned to the Bass Point band-stand, where more than a thousand of them spread out in a long line and were photographed. Then came a most convulsing game of indoor, outdoor baseball, played with savage rivalry by teams chosen respectively by Professor Robert H. Richards ('68) and the Hon. Eben S. Stevens ('68), with C. C. Peirce ('86) as umpire. The baseball fans present revelled in the fine points of the national game, and, when the partisan fury of the two nines threatened to break out with serious results, Umpire Peirce, with the diplomacy of a John L. Sullivan and with the aid of a megaphone, turned threatened disaster into a Hague peace jubilee by his masterful decisions, holding the score down to

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nothing to nothing. Several novelties were introduced into the game, such as reversing the base running in case of a jack-pot and the substitution of Boyle's law for the league rules in the fifth inning.

After the game it was time to return to the steamer for the homeward trip, and peace brooded over a tired but happy crowd all the way home.

F. T. Miller ('95) was the chairman of the general committee in charge of the day, and his committee was divided into three subcommittees. The entertainment committee was composed of G. H. Gleason ('03), chairman, A. H. Nickerson ('02), E. S. Mansfield ('96), G. F. Loughlin ('03), H. C. Eaton ('99), S. Seaver ('06) and F. W. Davis ('03).

The transportation committee was F. H. Keyes ('93), chairman, J. C. Riley ('98), M. C. Brush ('01), E. G. Pettee ('92) and I. Bowditch ('00). The hotel committee was F. A. Wilson ('91), chairman, L. B. Manley ('92), W. T. Keough ('88) and E. L. Hurd ('95).

Mrs. Webster's Reception

The reception given by Mrs. Edwin S. Webster to the ladies on Tuesday afternoon, June 8, was a brilliant one. Special cars on the Boston & Albany were met by automobiles to take the guests to the house.

The weather conditions were ideal even for a day in June, and under the spell of the beauty of the place, the flowers and the music, the hundreds of guests enjoyed an afternoon of rare delight. Tech colors gracefully entwined over the entrance to the grounds, and the art of the landscape gardener had lined the principal walks with beds of cardinal and gray flowers.

Mrs. Webster was assisted by a committee of ladies appointed by Mrs. Ellen H. Richards, of the Ladies' Reunion Committee. Receiving with Mrs. Webster were Mrs. Arthur T. Bradlee, Mrs. Franklin W. Hobbs, Mrs. Stewart Wrightington and others.

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TECH NIGHT AT THE POPS

A Brilliant Scene at Symphony Hall—Largest Crowd the Building ever held

June 8 was a record night at the Pops. It was Tech night, and Tech night with a vengeance. All other Pops dwindled to insignificance beside this Pop. Never before had the floor and galleries upheld such a seething mass of enthusiastic merry-makers, and never before were Tech songs and cheers given with greater heartiness and enthusiasm. It was the spirit of Technology bursting forth exuberantly in recognition of the new era that is dawning for Alma Mater.

The entire hall was hung with the cardinal and gray banners of the Institute, and over the stage blazed a parti-colored electric sign "Tech." Each table on the floor carried a class banner, and about these were grouped such a multitude of Technology men from the Class of '68 to '09 that toward the latter part of the evening the waiters were unable to serve refreshments along the middle aisle.

The first class to arrive was '08, followed by the classes in order up to '68, each class being cheered, and the climax coming when Professor Richards ('68), Eben Stevens and Eli Forbes came in, bearing their class banner. Although the cheering was enthusiastic from the moment the first class took its place in the hall, pandemonium reigned when, in slow procession, the graduating class of '09 moved to the place of honor assigned to them. The bombardment of confetti by the ladies in the galleries announced the entry of the new class, and in an instant the air became filled with gay-colored streamers which fluttered down from the balconies.

When Governor Draper entered with his class of '78, the entire body rose and made the hall ring, and when later the Governor and Acting President Noyes escorted the new President, Dr. Maclaurin,

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who came as the guest of the Class of '93, there was confusion worse confounded as the applause was redoubled.

It did not take the men long to recognize the face of Mrs. William B. Rogers, who sat in the front row of the balcony, and the entire audience broke forth in cheers for Mrs. Rogers. During the evening the crowd sang "Dear Old M. I. T.," "On Rogers Steps," "Take me back to Tech" and the "Stein Song."

After the concert the Tech men marched, lock-stepped or snake-walked, back to Rogers Building, and when 1,400 men were banked on the steps and in front of the Institute, Edward M. Hagar, president of the North-western Association, led cheers for the different Presidents from Rogers to Maclaurin. Boylston Street was packed with spectators, and with the brilliant lights from the electric signs of the Institute the scene was one of the most impressive of the whole reunion.

Leo Pickert ('93) was chairman of the Pop Concert committee. The other members were Guy C. Emerson ('90), M. L. Emerson ('04), H. Mork ('99), Dr. A. W. Rowe ('01), Giles Taintor ('87).

The Figures of Registration

Although some of the Boston men and a large number of guests did not register at Reunion headquarters, the record shows the names of 1,814 Tech men and 780 guests, or a total of 2,594. This is a little less than a thousand more than the registry five years ago.

The work of the registration committee was enormous, but it was so organized and carried out that no detail was neglected Professor C. F. Park ('92), was chairman, and assisting him were Bursar F. H. Rand, Professor A. G. Robbins ('86), Professor W. A. Johnston ('92), Professor S. C. Prescott ('94), Professor H. W. Hayward ('96), Dr. A. W. Rowe ('01), G. W. Swett ('04) and E. O. Hiller ('04).

In the front of the REVIEW will be found a list of the local Alumni Associations with the names of the secretaries.

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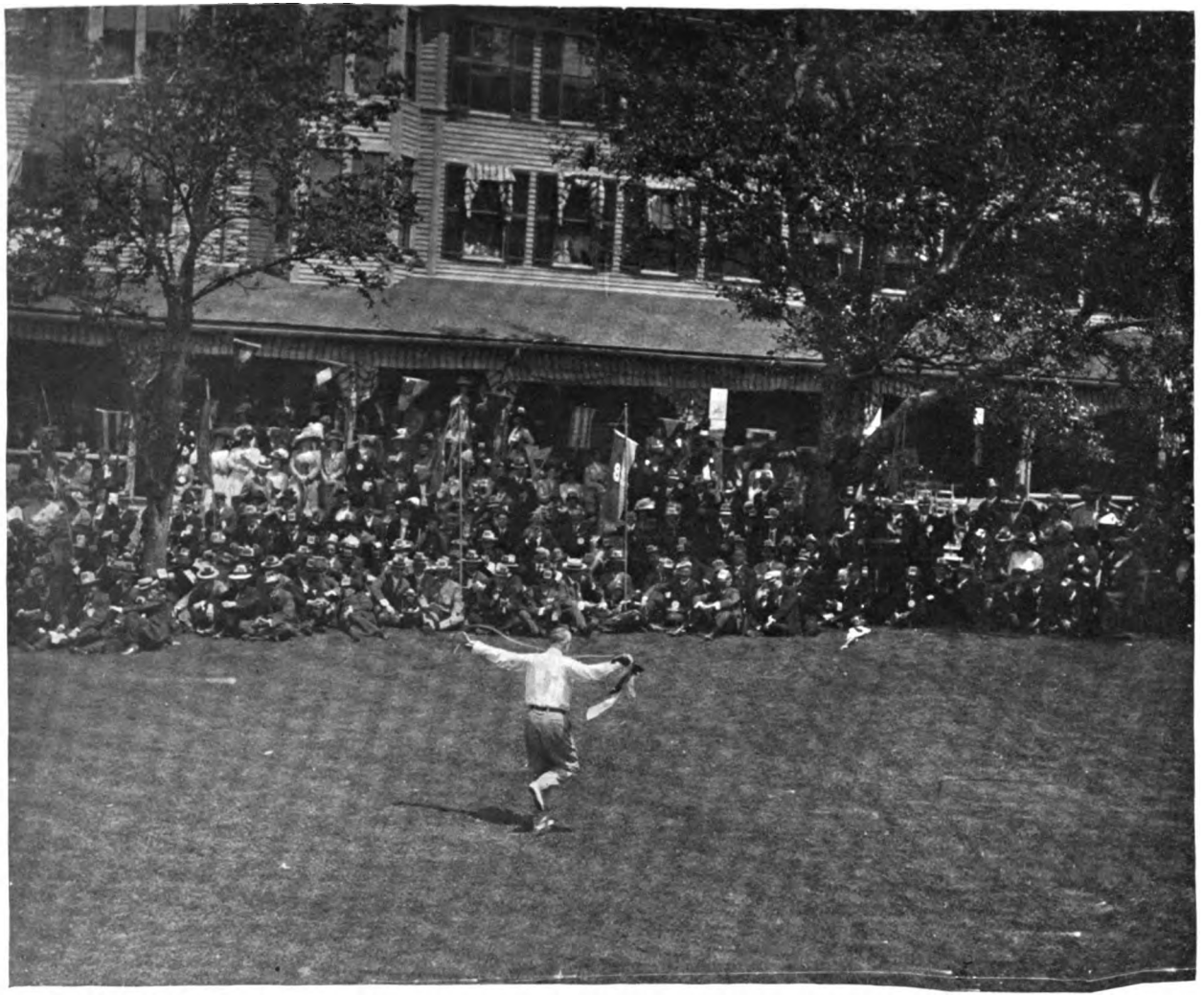

No. 56. Stunt of '68.—Professor Richards and the "Friendly Rope"

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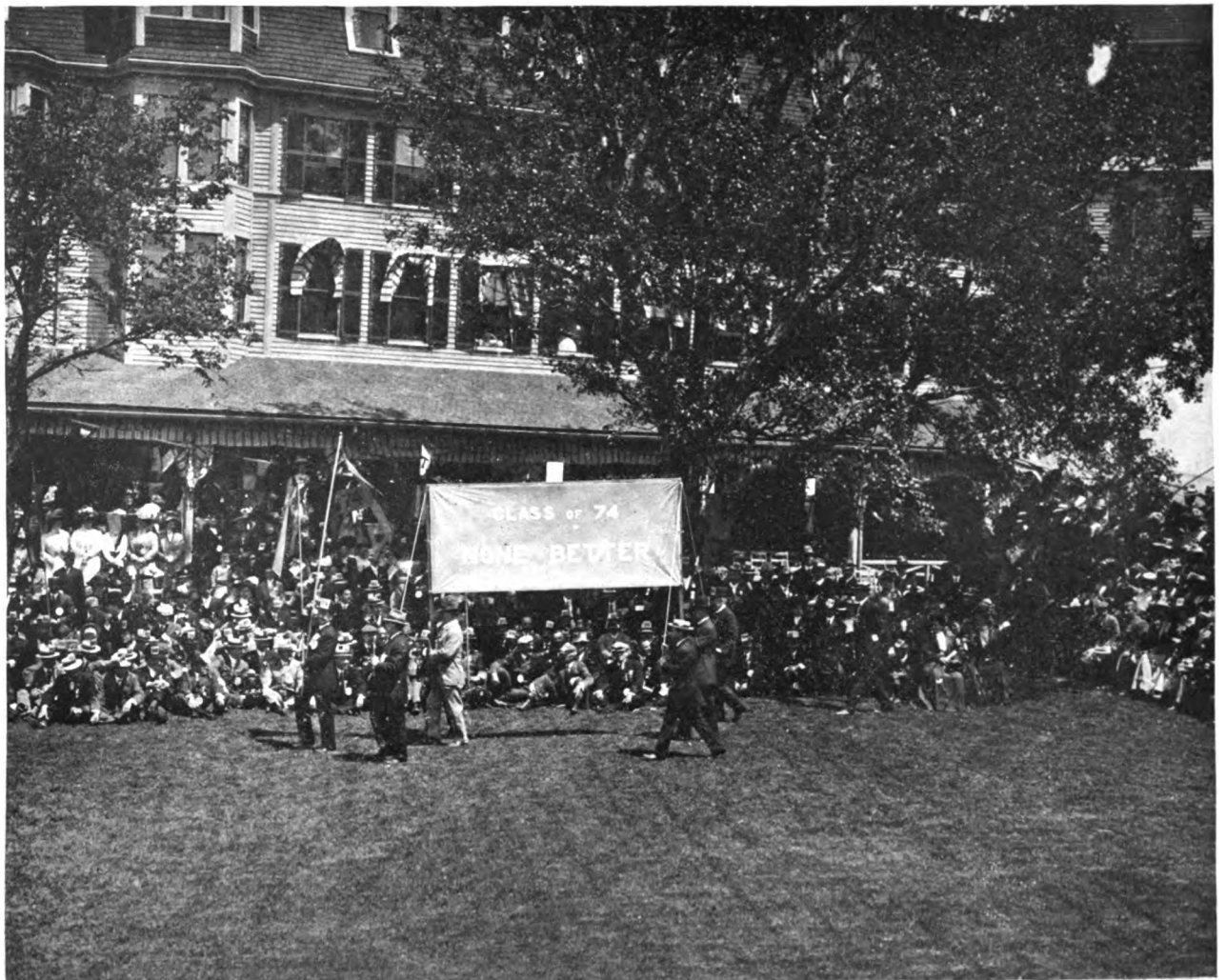

No. 59. Stunt of the Class of '74

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STUNT DAY AT NANTASKET

Graduates, Old and Young, Enjoy a Day of Fun and Frolic—Most Unique of All College Celebrations

Wednesday, the last and busiest day of the Reunion, found all still exuberant and keyed up for the fun at Nantasket. This day of parade and stunts was carried through without a single hitch, upwards of 2,500 people taking part in the enjoyment. The committee's work on this day was certainly stupendous, and those in charge are to be heartily congratulated upon their management, for the whole programme appeared to be automatic. The men on the committee were: Frederick H. Fay ('93), chairman; Harry A. Rapelye ('08), secretary; John C. Abbot ('93), Albert F. Bemis ('93), R. D. Bradbury ('06), Paul R. Brooks ('00), Edward B. Carney ('93), Howard L. Coburn ('98), Charles C. Doe ('86), Harold C. Faxon ('08), George A. Fuller ('97), George L. Gilmore ('90), George B. Glidden, ('93), who handled the megaphone, Charles R. Haynes ('04), Henry D. Jackson ('97), I. W. Litchfield ('85), Harrison Loring, Jr. ('89), Charles E. Locke ('96), Alexander Macomber ('07), Charles G. Mixter ('02), William J. Mixter ('02), Newitt J. Neall ('00), Charles H. Parker ('95), Frank F. Phinney ('93), John A. Rockwell ('96), Charles A. Sawyer, Jr. ('02), Rudolph P. Weiler ('08) and Percy R. Ziegler ('00).

Two especially chartered steamers, the "Myles Standish" and the "Nantasket," started from Boston at about 9.30 o'clock in the morning, loaded to the guards, the older classes on the former, the younger classes aboard the "Nantasket." The class of '84, with its ladies, which had been celebrating its twenty-fifth anniversary at the Eastern Yacht Club, formed part of the procession in T. Coleman du Pont's steam yacht "Tech," while the invited guests were conveyed in Colonel Charles Hayden's yacht, "Wacondah." The first boat landed at the Nantasket wharf at 10.30, and from then until

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11 o'clock all Tech was being unloaded onto Massachusetts' most famous beach resort. The graduates were immediately marshalled on the beach behind the Nantasket House, and assembled under their class banners, previously staked out along the beach by the advance guard.

Colonel Charles Hayden ('90) was chief marshal, with G. L. Gilmore ('90) chief of staff and Colonel Frank L. Locke ('86) assistant chief.

The division commanders were T. W. Sprague ('87), S. P. Bremer ('93), F. F. Phinney ('93), A. F. Bemis ('93). The marshals were as follows: Professor R. H. Richards ('68), Dr. F. H. Williams ('73), Dr. S. J. Mixter ('75), the Hon. E. S. Draper ('78), W. B. Snow ('82), General William E. Spalding ('85), Everett Morss ('85), I. W. Litchfield ('85), A. D. Little ('85), Dr. A. A. Noyes ('86), C. C. Prince ('86), Dr. C. D. Underhill ('87), E. S. Webster ('88), Henry Howard ('88), F. R. Hart '(89), G. C. Emerson ('90), F. H. Fay ('93), G. B. Glidden ('93), Butler Ames ('96), Dr. J. A. Rockwell ('96), H. L. Coburn ('98), Dr. C. G. Mixter ('02).

'83 TO THE FORE

Class marshals: William Jackson ('68), E. W. Bowditch ('69), F. L. Fuller ('71), C. F. Allen ('72), S. E. Tinkham ('73), G. H. Barrus ('74), B. L. Beal ('75), H. B. Wood ('76), A. L. Plimpton ('77), J. W. Rollins, Jr. ('78), J. W. Cabot ('79), W. T. Miller ('80), F. H. Briggs ('81), R. F. Herrick ('82), G. B. Underwood ('83), A. S. Pratt ('84), F. M. Kimball ('85), Paul Winsor ('86), Giles Taintor ('87), A. T. Bradlee ('88), G. C. Wales ('89), C. W. Sherman ('90), E. Cunningham ('91), C. F. Park ('92), A. L. Kendall ('93), T. G. Richards ('94), F. T. Miller ('95), J. H. Knight ('96), C. W. Bradlee ('97), C.-E. A. Winslow ('98), M. S. Sherrill ('99), I. Bowditch ('00), E. F. Brigham ('01), H. E. Stillings ('02), R. H. Nutter ('03), M. L. Emerson ('04), G. M. Bartlett ('05),

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R. R. Patch ('06), L. Allen ('07), H. T. Gerrish ('08), M. R. Scharff ('09).

The line of paraders, when formed, stretched from the Nantasket House back along the beach to the Surfside, a distance of nearly a mile. There were 1,315 in line, with two bands, the Waltham Watch Company band and the First Corps of Cadets band, with various drum corps, one of which consisted of a lone bass-drum and a trombone. The view from the Atlantic House on the hill of the long, tapering line stretching out along the beach below was altogether inspiring and grand and a sight which the spectators will not forget for many a day. Within fifteen minutes after the last boat landed, the classes were formed into companies ready for the march.

At 11.15 there ascended from the hill three bombs, which burst in the air, and the great line started. In the lead of the first division was a line containing representatives of '68, '69, '70, '71 and '72. G. B. Glidden ('93) was in the lead of the first division, followed by the Waltham Watch Company brass band. Mrs. Ellen H. Richards ('73) was the only woman in line, with the exception of two of this year's graduates, Miss Florence Luscomb and Miss Lahvesia V. C. Packwood, who marched with '09 in the rear.

It was a glorious June day, and, as the serried classes marched up over the brow of the hill and through the amphitheatre where the ladies were waiting in the stands, it was like the return of a victorious army. Here the classes broke ranks, and the men joined their ladies at the red, yellow, or blue tag rendezvous for luncheon. When we can say without fear of a question that the luncheon service was perfect and that the immense throng of hungry people were fully, amply, thoroughly and most satisfactorily fed in less than three-quarters of an hour, we feel that we have hardly done justice to the skilful manner in which Damon ('91) carried out his assignment at the Atlantic House. It was a piece of gustatory engineering worthy of a master's degree.

At 12.40 the firing of three more bombs announced the beginning of the marvellous stunts, and the crowd gathered in the stands erected on the lawn, the hotel piazzas and roof. The weather

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was ideal, and there was no need for utilizing the great tents which had been provided in case of rain.

President Maclaurin began the ceremonies by presenting bouquets of flowers to the oldest and youngest graduates of the Institute,—Professor Robert H. Richards ('68) and Henry K. Spencer ('09). Then the stunts were on. '68 was represented by Professor Richards, who blithely entered the arena and recited the following poem written by Laura E. Richards, skipping a rope briskly as an accompaniment:—

THE FRIENDLY ROPE

You're building a bridge or digging a mine
Or boring a mountain through:
    Whatever you're doing,
    You'll sometimes be ruing
The state it has brought you to.
Get up and turn your back on it.
Five minutes with the rope,
    And dull despair
    And carking care
Will turn to joy and hope.

Thus we, the brothers of memory,
And you, the brothers of hope,
    Are bound together,
    Come wind, come weather,
And all by the kindly rope.
If you are in trouble, just give it a twitch,
And we'll be there like a shot.
    With friendship flowing,
    With goodwill glowing,
All brothers upon the spot!

Chorus.

For it isn't a rope to hang yourself,
And it isn't a scourge for to bang yourself,
But it's just the thing for a boy, you know,
To hop and to skip with, thus and so!

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No. 10. Class of '77 Raising its Banner

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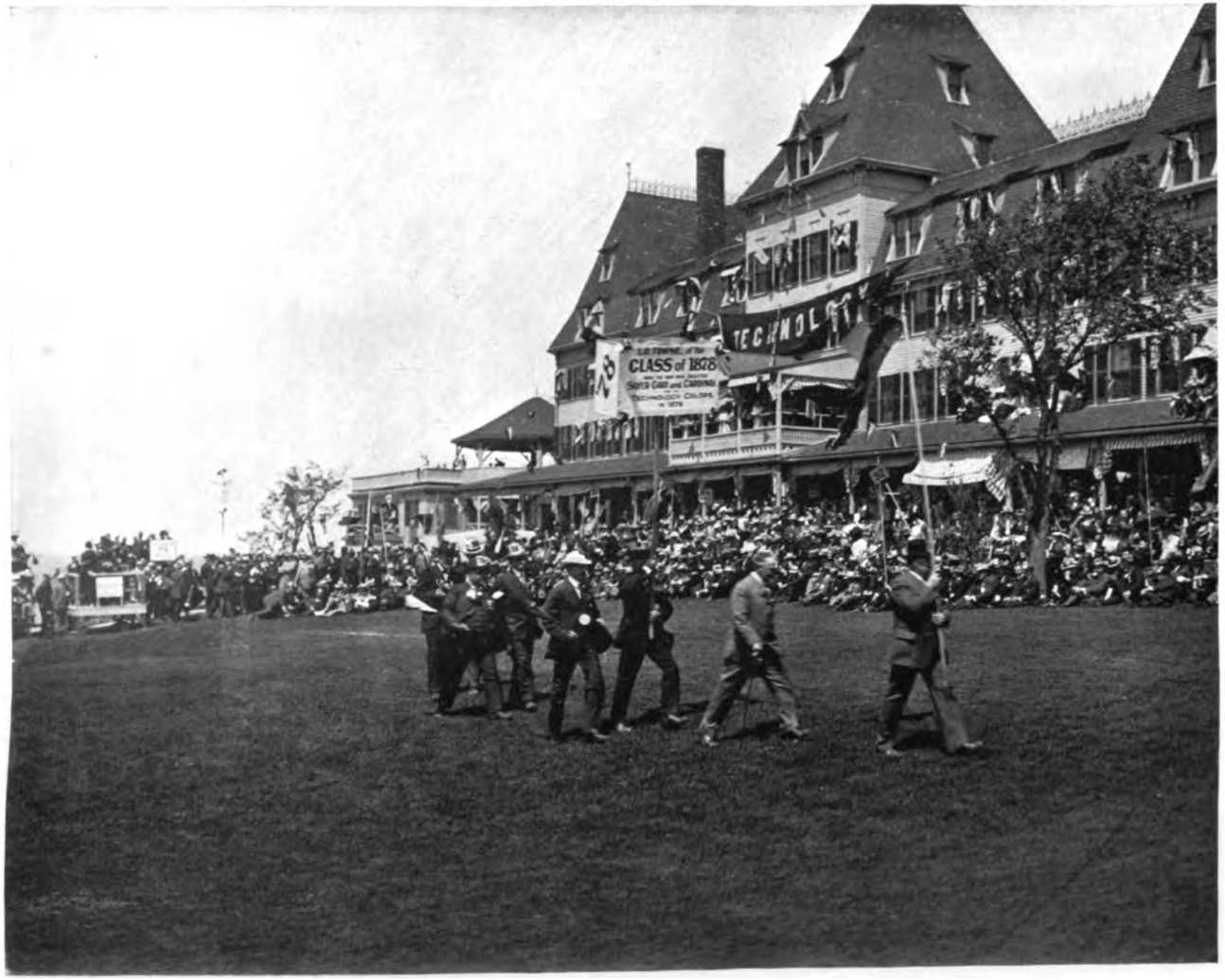

No. 18. STUNT OF THE CLASS OF '78

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As he passed in front of each class in the arena, he was cheered to the echo, and he finally presented the rope to President Critchett ('09).

'71 was represented by three of its members, who gave a cheer for the old class which was convincing evidence that they were still there with the spirit.

'72 sent out four men who put up a fine talkative cheer that won applause.

'73 marched forth with a long banner, supported above the single file of men, bearing claims to such glories as: "We founded the Alumni Association"; "We graduated the first co-ed"; "We built the East Boston Tunnel"; "We were president of the Boston Christian Endeavor Association for 25 years"; and "We have bossed 25,000 miles of railroad."

'74 brought out a float bearing the modest claim that it was "The Biggest Pebble on the Beach," and ten of its members supported a walking terrestrial globe five feet in diameter, belted equatorially with the statement "Technology Known Around the World." '74 also produced a novelty by blowing its class numeral on tin horns, like a fire alarm,—seven blasts, pause, and four blasts.

'75 next came on the scene, dressed in college gowns in the colors of *The Spectrum*, Tech's first paper, and representing printer, reporter, devil, subscriber, etc. The stunt was performed by seven men, captained by B. Leighton Beals, and fac-similes of the first copy published were distributed through the audience.

'76 had a novel cheer, referring to the statement that one of the class members got $25,000 for a month's work in examining the Panama Canal—which he didn't get. "Who got $25,000 for one month?" they cried. "We did." "Was it worth it?" asked the leader. "Yes," said the class solemnly, and hastened away.

'77 had a big flag-raising event. The tightly rolled banner was raised slowly to a height of thirty feet, by successive five-foot joints of bamboo, two bombs which developed into figures upon bursting meanwhile being fired from behind the stand. The long pole was held by guy ropes at intervals, and, when it was finally up, the class gave their cheer and the large '77 banner was unfurled.

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It was a pretty stunt, and called forth a '77 cheer from the class of '07.

'78 bore a four-sided transparency with these inscriptions: "'78 gave to Technology its greatest honor, Governor Eben S. Draper," and on the other side, "L. O. Towne of '78 was the man who selected the Technology colors in 1876,—silver gray and cardinal."

'79 also brought forth a banner claiming the distinction of having chosen the Technology colors, and a young riot nearly resulted. Following the pandemonium of rival howls, the class distributed hand-bills eulogizing themselves as the class that "did things," and called attention to the fact that, as Professor Pickering of their class had been offered $10,000,000 for experimentation along the line of communication with Mars, they would proceed to produce a "Message from Mars." They first rang a bell, then tried fireworks and a mirror, and finally sent up a balloon. They received a reply saying, "'79 are certainly hell." The final try to send a message was by a tiny cannon about three inches long.

'80 and '81 held a walking match, a remembrance of the original match between Dr. John Duff ('81)—who won—and W. T. Miller ('80). Those who attended the last reunion will remember the same stunt, when Dr. Duff again won. This year, however, Miller turned the tables, skipping a bit as he went, and getting across the arena first, apparently much to his satisfaction.

'82 did a parade under a large banner bearing the inscription, "We may not look it, but we're eighty-two," and gave the class cheer.

'83 presented Horace B. Gale as President Taft, with a Scotch-clad "golf cabinet," in a golf stunt. He made ludicrous and vain attempts to hit the ball, a bigger ball and bigger club being provided with each failure. Finally, a ball four inches in diameter was teed up, and the "big stick" marked "T. R." was given him, and he got off a 10-yard drive, nearly killing one of his caddies.

'84, with the slogan "Our Silver Anniversary," did some marching manœuvres with the cheer "'84, '84,—we are good for a few years more." They carried a banner,—"Young yet at a quarter of a century."

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'85 hustled in a float, "drawn" by Litchfield as a hobby-horse, driven by R. H. Pierce. On the corners were apparently seated four peachy Romans, representing the arts and sciences,—fat pink legs having been built out onto the float from the waist lines of the bearers of the craft,—and at the centre was a tall draped canopy. The float was halted, the drapery fell, and "Queen" Arthur Plaisted, in a green sheath gown and peach-basket hat, was revealed. The float moved off the arena, and left "her" standing on a step-ladder, while the audience went wild. The stunt was

THE CLASS OF '85 PRESENTS A "SIGHT"

labelled "'85 presents a sight to the Institute," and the label was no libel.

'86 sent in ten men, each encased with framed cloth signs, which dropped to form square skirts, reading along the line "Eighty Six." Mrs. Kerr led the '86 parade with her two sons, one a graduate of this year and the other a sophomore at the Institute. Former Acting President Noyes was one of the '86 group.

'87's men entered in column of twos, completely enshrouded in sheets, the band playing an uncanny march. After marching evolutions they formed in a circle in the centre of the arena, facing inward, with two leaders in the ring. At a given

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signal all threw off their sheets, and were revealed as devils with marvellously long red tails. A wild dance was held to the accompaniment of

"A bold, bad man and a desperado;
He came to town on a wild tornado,
He rolled around like a gay gazabo;
And every time he took a drink, Zip! ——!"

Then the leaders broke through the line and ran out, pursued by the other devils.

'88, attired in jumpers and mortar-board caps, gave a rousing class cheer, and then, forming themselves in the figures 88, knelt down and left a large representation of their numerals in white confetti on the greensward.

'89 came with a brass cannon, made by one of the class members, J. R. B. Fiske, in the Technology shops, and first fired to celebrate the first football victory. It was fired again, to the accompaniment of hearty cheers for '89.

'90 had a stock of cheers, the bunch responding with a lusty example of the original '90 yell when asked by the leader, "Who licked '89?" and "Who licked '91?"

'91 presented an elaborate stunt entitled "Education, or the Modern Perseus." Howard C. Forbes as Youth loafed into the arena, and was presented by Alma Mater, in the person of W. B. Trowbridge, with a shield marked "Education," a sword, and a wreath of laurel. Youth then strutted about with a "the-world-is-mine"[1] air, and was bravely decapitating a couple of poppies when he perceived the entrance of a green and awful dragon,—"The World—The Money Power." This beast had more than thirty legs, the two front ones belonging to W. B. Douglass, and at the first valiant onslaught of Youth it gaped its red maw, took him in, and marched off with him enclosed. The stunt was one of the most striking of the day. It was prettily done and called forth admiring cheers.

'92 rushed in, grouped itself about a central banner, struck flare matches, and gave lustily its class cheers, while the fireworks ap-

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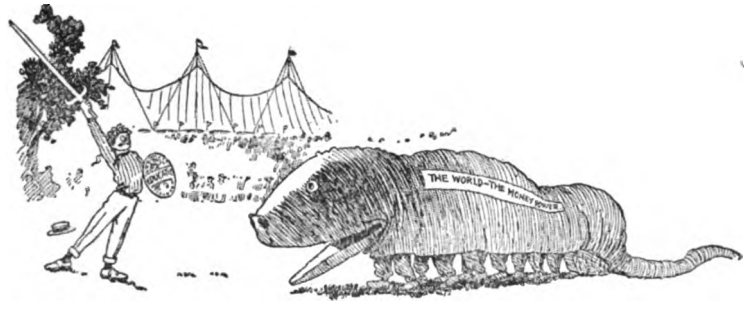
paratus sent up bombs which blossomed in mid-air into '92 banners. They rushed off as quickly as they had come.

'93 entered with a coffin and a long string of placards bearing the numerals of the classes from '68 to '09, and forthwith produced the charade "1893—A—wake." Each placard was laid to rest with an ominous groan from the class and cheers from the various classes in the audience. '93's placard refused to stay put, springing out of the coffin on a spring despite repeated efforts to bury it,



HOWARD FORBES ('91), BEFORE FEEDING THE CROCODILE

and, as the class marched off, the trappings of woe were turned to the class colors, yellow and black.

'94 gave a reproduction of the Olympic Marathon race in England, S. C. Prescott, as Dorando, wearing the '93 numerals, and W. H. King, as Johnny Hayes, running under the '94 colors. Dorando fell, was helped, doped, and carried over the line by his admirers to receive the blessing of the king and queen, who occupied the "royal box." Hayes came in a fair second, and claimed the victory, but was kicked from the arena by "King Edward."

'95 showed "Revision Upwards" with the aid of a donkey. Taft and Roosevelt at the head of the line of '95-ers were protected from the frequent attacks of a most energetic Bryan by the football tactics of several secret service men.

'96 presented a well-worked-up dumb show of the frustrated wedding of Miss Technology to Johnny Harvard. The bride and groom had advanced to the altar to the strains of the Wedding

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March from "Lohengrin," and were about to be given away by President Pritchett. Suddenly Lochinvar Maclaurin rushed breathlessly to the fore, and rescued the bride. Pritchett was removed by Carnegie, and Harvard had to be satisfied by taking away Professors Swain and Clifford. The players: Dr. J. A. Rockwell, Harvard; A. D. Maclachlan, Miss Tech; Dr. H. S. Gilman, best man Eliot; N. H. Sanderson, President Pritchett; E. S. Mansfield, Maclaurin; H. G. Grush, Swain; and S. F. Wise, Clifford.

'97 depicted "well-known men" in a parade of some length. Roosevelt, Taft, Cannon and Rockefeller were among those caricatured.

'98 gave a reproduction of the dancing features of "The Follies of 1908," with Merry Widow-ed, sheath-gowned chorus girls and handsome dancing men. The most ridiculous feature was a portrayal of the Radium Ballet by four muscular "damsels," prominent among whom was Professor C.-E. A. Winslow, whose graceful antics called forth the plaudits of the assembly.

'99 caricatured all the old favorites in the Faculty, and, led by the inevitable "Mac" in Scotch kilties, ambled in and sprang some of the old '99 cheers. Their sign read "The Faculty in 1915," and it was pleasant to see that all the professors were still in the ranks.

'00 did "the survival of the fittest" in a leap-frog contest indulged in by more than thirty men arrayed in fantastical caps.

'01 carried uniquely constructed signs which made in air the letters "M. I. T. '01," and a marching stunt was employed which brought this to the view of the successive sides of the arena.

'02, caricaturing the more prominent members of the Faculty, gave an impromptu faculty baseball game, where it was "every man for himself." In the midst of a rapid circling of the bases the umpire decided that the rounds should be made the other way, and accordingly shifted the bases. The final score was announced as 0 to 0 in favor of the Faculty.

'03 did "The Site" in a night-shirt parade, which halted, faced the audience, and showed the words—one letter to a man—"Aren't we a site" on their breasts, then turned and showed "Welcome to our Mac" on their backs.

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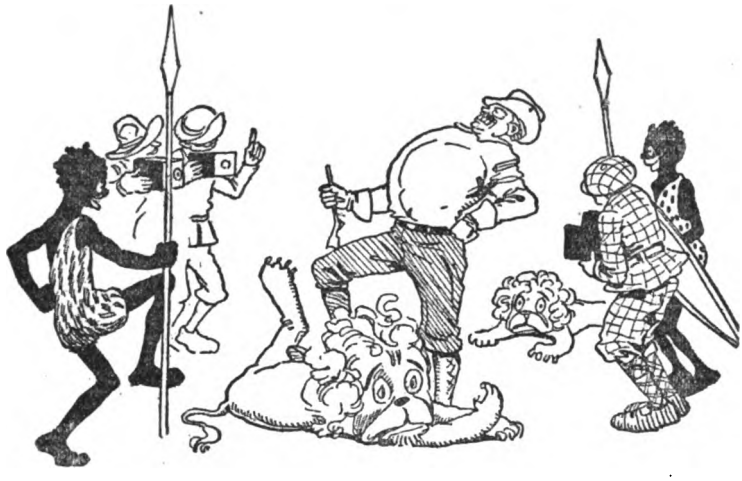
'04 hauled about the arena a decorated wagon from which a stream of confetti spouted continuously. Frequent revolver shots by the captain who marched alongside the vehicle made the supply reservoir on the wagon belch small red and blue balloons marked '04, which gayly floated out to sea.

'05 sent out a Zulu who stuck up in the grass a sign reading "Jungle." Then entered Theodore Roosevelt, attended by a Nature Faker, reporters from *The Tech*, the *Outlook* and *New York Sun*,



How Miserable was Marcy ('05), with the Foot of the Conqueror on his Neck

and various photographers, including Kermit. Two rather inane-looking lions, prodded into fierceness by the sprightly Zulus, were successfully shot by the ex-President, and then an elephant captured by the salt-on-his-tail method, that he might be used for a beast of burden for the day's shoot.

'06 depicted "Three Weeks at Tech," burlesquing military drill and Junior Week, with Junior Prom, Technique Rush, Tech Show and the Spring Concert stationed at different points of the arena, proving rival attractions.

'07's stunt was a realistic reproduction of the Tech-police riot of 1904, full of real ginger. A group of cops stationed themselves

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on a crude wooden construction labelled "Rogers Steps." A bunch of students, clad in the familiar overalls and caps, marched on them, singing "All policemen have big feet." Result, a most realistic fight. When the smoke of battle cleared away, there were more blue coats than students prone upon the ground. An ambulance was hustled to the scene, and the victims were unceremoniously hauled from the field.

'08 gave the "Follies of 1908." This class depicted Taft's election, the funeral of the panic the conquest of the air, and Kurt Vonnegut, in uncensored *abandon*, gave a Salome dance with a sanguinary cabbage head.

'09 gave a circus parade so varied as to be kaleidoscopic in effect, with drum corps, real bands and fake bands, tall men and midgets, one of the co-eds as the "original bearded lady," another gracefully riding a horse as Queen of Sheba, clowns and clever acrobats. This stunt was indescribably ludicrous, and there was so much to it that nobody saw it all.

'09 passed out, and three more bombs announced the finish of the great all-Tech day, which will go down in history amid a confusion of pleasant memories.

The events of the day had been run off without a hitch, one stunt following another like clock-work. None was suffered to continue to the point of boring anybody, for that energetic committee simply waved a megaphone at the proper instant and the class faded.

Photographs were taken of the beach parade and nearly every stunt, and a moving-picture machine was trained on the lively features of the day. The moving-picture film, which has recently been developed in the Lowell Building under the supervision of Professor Lawrence, proved so good that it was exhibited at Keith's Bijou Dream the last week in June.

At four o'clock everybody was packed, laughing and happy, onto the steamers, and the homeward trip begun.

The line cuts in this article were reproduced from Goldsmith's cartoons in the *Boston Globe*.

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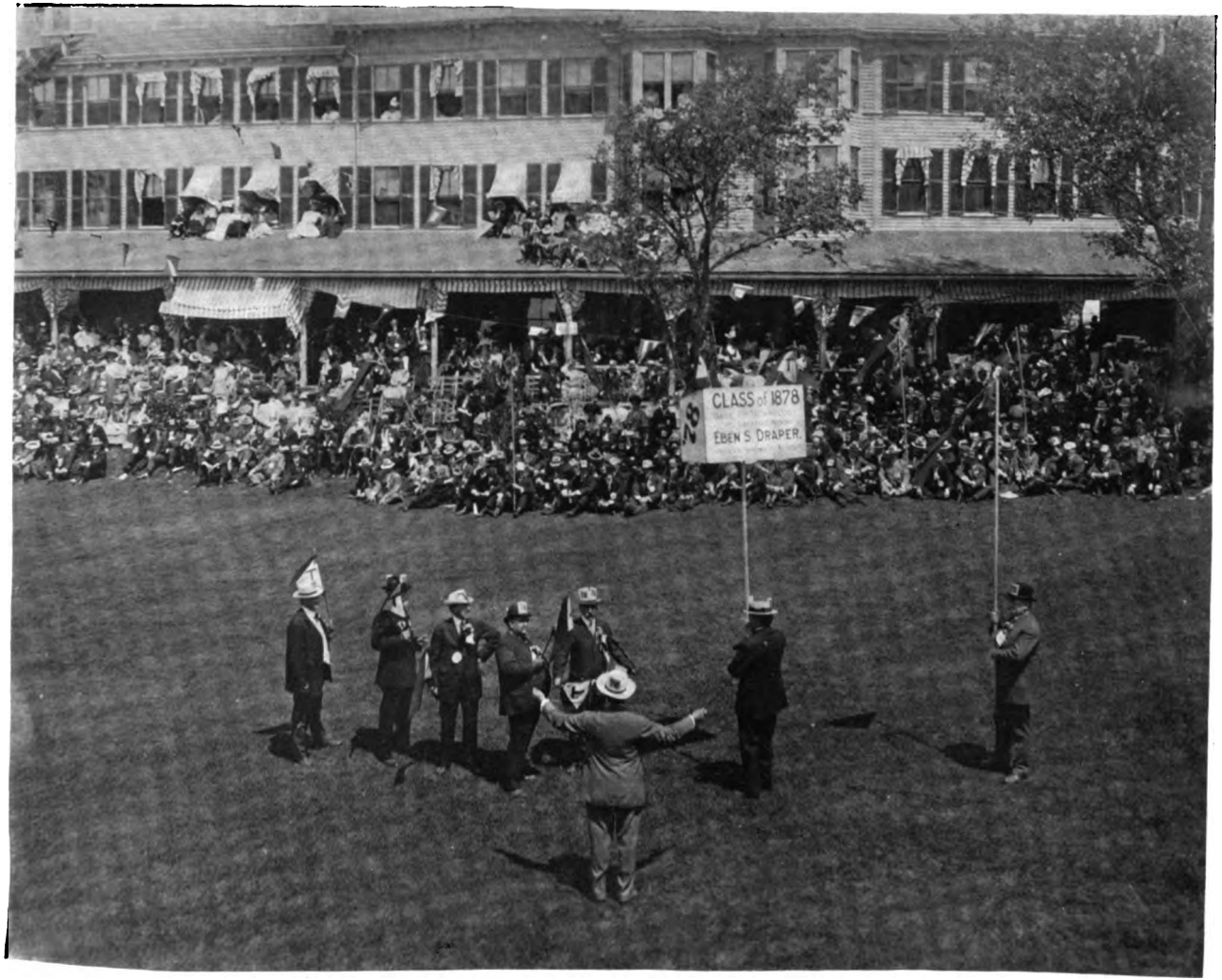

No. 13. Class of '78 Cheering Governor Draper

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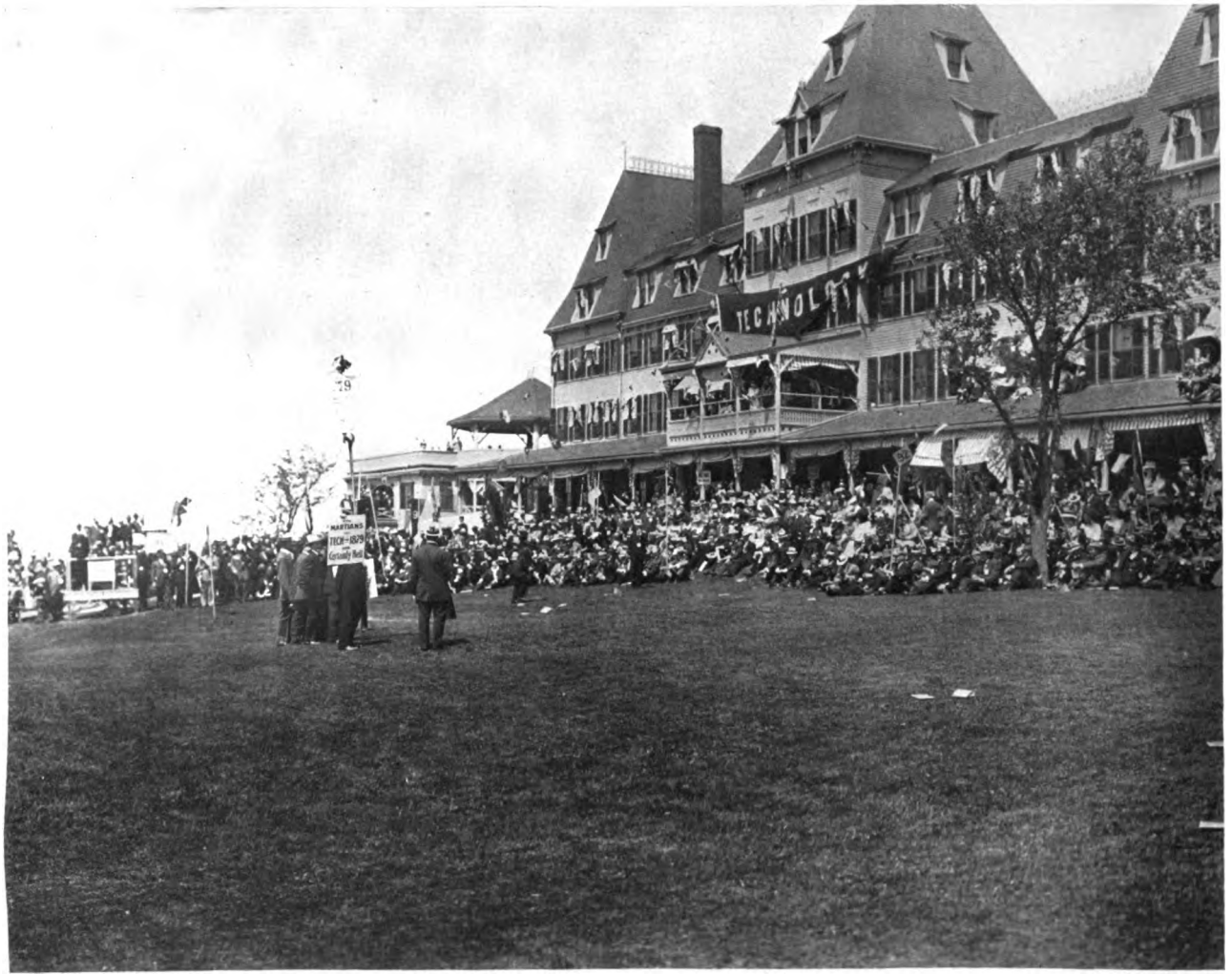

No. 40. Stunt of the Class of '79

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THE REUNION BANQUET

A Magnificent Climax to the Three Days' Reunion Celebration—President Maclaurin makes a Declaration of Policy

The great Reunion Banquet of 1909 will long be remembered for its magnitude and brilliancy, but chiefly because on that occasion the new President made a formal declaration of the Institute's policy that brought the audience to a climax of enthusiasm and opened the way for the serious work that is before us. He stated that it was the purpose of the Institute to secure a new site and raise a new Technology; that there would be no more talk of the merger with Harvard, but that the Institute would co-operate with Harvard wherever such co-operation was possible.

In its appointments and proportions the banquet was an unusual one, even for Boston. The magnificent hall was in gala-dress and aglow with light and color. Nearly a thousand alumni filled the tables, and in the balconies were ladies and guests who entered into the spirit of the occasion as fully as the banqueters themselves.

The decorations about the speakers' table at the front of the stage had been wrought with striking skill, and with the great masses of flowers, the scintillations from scores of candelabra and the class shields amid ropes and banks of green, the scene was one of splendor to the onlooker.

The diners themselves were apparently as freshly enthusiastic as they were before the three strenuous days of jollity began. The air was alive with the stir of music and song, the snap of catchy class yells, and now and then one of the guests at the speakers' table or a prominent alumnus was given a long Tech cheer.

Soon after the banquet began, a smokeless flashlight picture was

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taken, and in less than an hour nearly every man in the audience had the surprise of seeing himself in the group of diners that was projected on the screen.

Just after the fish course was served, the audience was startled by the wild inrush of half a hundred newsboys, who nearly produced a stampede by their yells, as they quickly distributed special extras of the Boston *Daily Globe*. The paper was the regular edition of the *Globe* of Wednesday, with the entire first page devoted to an account not only of the events at Nantasket, from which the men had just arrived, but also of the banquet itself, part of which was yet to come. On the page were pictures of Dr. Maclaurin and some of the men connected with the reunion, also a future vision of the new Technology that is to be, and a list of the men who were present. It was several minutes after the onslaught of the newsboys before the readers understood that it was a special edition printed by the *Globe* for distribution at the Tech Banquet only. It was a wonderful piece of newspaper enterprise because of its attractive make-up and accuracy. It had to be printed after the regular morning edition had gone to press, and both the accounts of the stunts at Nantasket and of the evening banquet had to be written the day before.

Those who sat at the head table were President Maclaurin, Dr. Noyes, Governor Draper, Samuel J. Elder, Speaker Joseph Walker of the House of Representatives, Professor Gaetano Lanza, Professor Francis H. Smith of the University of Virginia, Arthur D. Little, Everett Morss, President T. W. Robinson of the Commercial Club of Chicago, Colonel Charles Hayden, Colonel Thomas L. Livermore, Secretary George H. Martin of the State Board of Education, Toastmaster E. S. Webster, Frederick P. Fish, Secretary Ralph W. Pope of the American Institute of Electrical Engineers, Professor George F. Swain, vice-president of the American Society of Civil Engineers, Secretary Calvin W. Rice of the American Society of Mechanical Engineers, President Willis R. Whitney of the American Chemical Society and James P. Munroe.

Throughout the dinner the 8th Regiment Band, led by Harry Stiles, made things lively, and frequently struck up the air of a

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Tech song, in which all joined with a vim. The most popular of the special songs which were provided at each plate had a mathematical chorus. It went like this to the air of "Dennis":—

How soft were Swain's commands,
How gently Charlie slew!
And Peabo finds some mischief still
For idle hands to do.

Chorus

$$xy^2 + 18xy + y\,(18 + x) + x = 18xy\,(18 + 18xy^2 + x).$$

Amen

Sung thus:—

Xy square plus eighteen *xy*,
Plus *y* into eighteen plus *x*,
Plus *x* equals eighteen
Xy into eighteen
Plus eighteen *xy* square plus *x*!

The algebraic chorus was contributed by Gelett Burgess, who also wrote a song for the occasion to the air of "The Good Old Summer Time," which was as follows:—

At the good old M. I. T.,
At the good old M. I. T.,
You have to work like a son-of-a-gun
To capture your degree;
You dig and delve from nine till five,
Then home and study till three.
Your brains are strong, or you don't stay long
At the good old M. I. T.

At the good old M. I. T.,
At the good old M. I. T.,
We set the pace that wins the race
Of M-E-R-I-T.
We've got the men, we've got the dope,
We've got the mettle, and we
Can engineer Creation at
The good old M. I. T.

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At the good old M. I. T.,
At the good old M. I. T.,
You bet your neck the good old Tech
Is good enough for me!
Before I die, I want to try
The steps of Rogers to see,
And watch again how they make good men
At the dear old M. I. T.

One of the parodies that was well received was set to the air of "My Bonnie":—

Maclaurin came over the ocean,—
Maclaurin, our hope is in thee,—
Maclaurin came over to Boston
To pilot our dear M. I. T.

Chorus

Greenbacks, greenbacks,
Bonnie big bunches we want to see;
Greenbacks, greenbacks,
Oh, greenbacks, we're waiting to see.

The Tech engineers that have stood out for a lock canal at Panama were commemorated by a song set to the tune of "Old Lang Syne," as follows:—

Some say a lock canal cannot
Be strictly on the level;
We know they're daft,
And Tech and Taft
Consign them to the—[long pause].

Be it ever so humble,
There's no place like home.

The delightful inconsequentiality of the last line made it necessary to have it repeated time and again.

The one Technology ceremony that is never omitted came just

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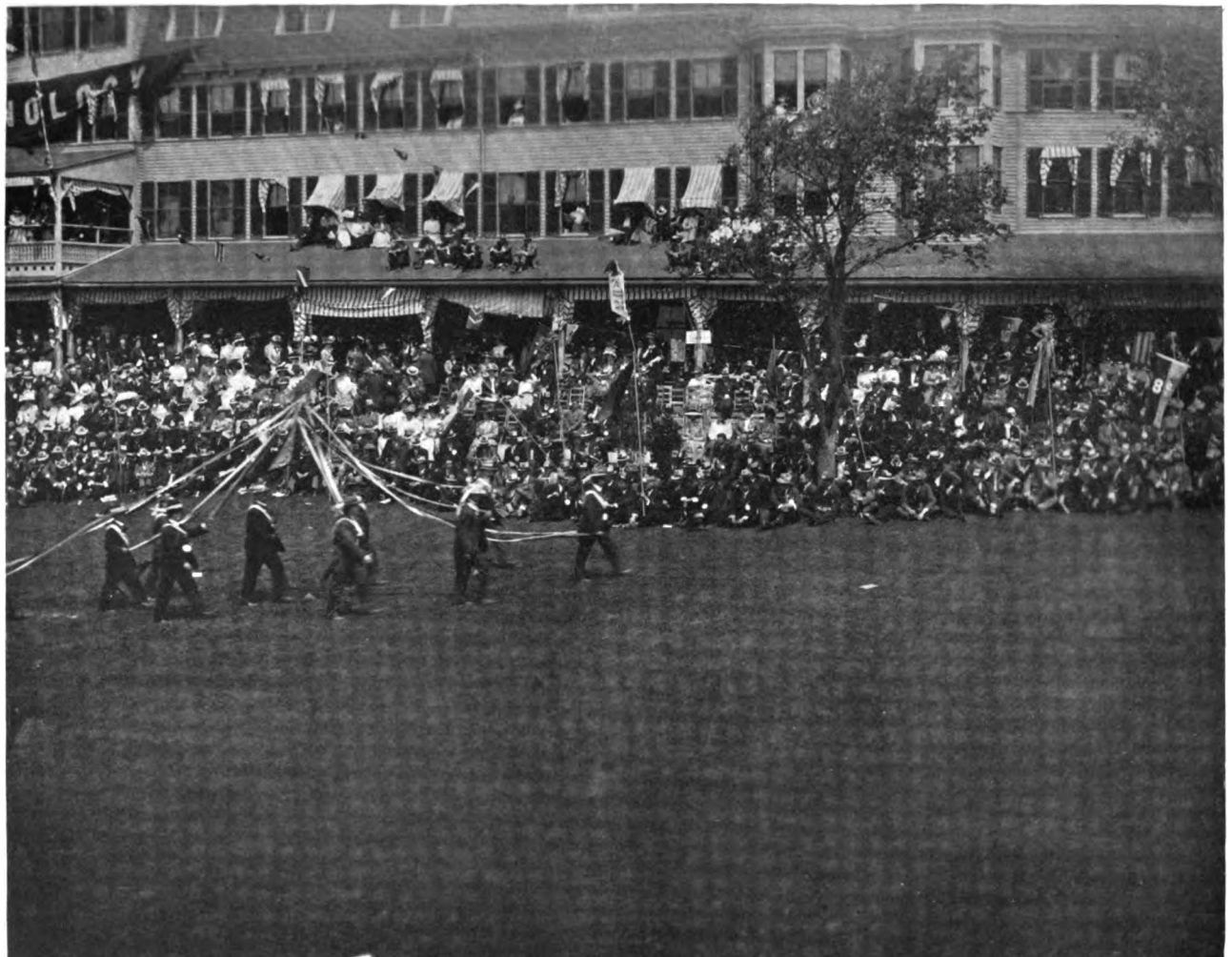

No. 17. Stunt of the Class of '82

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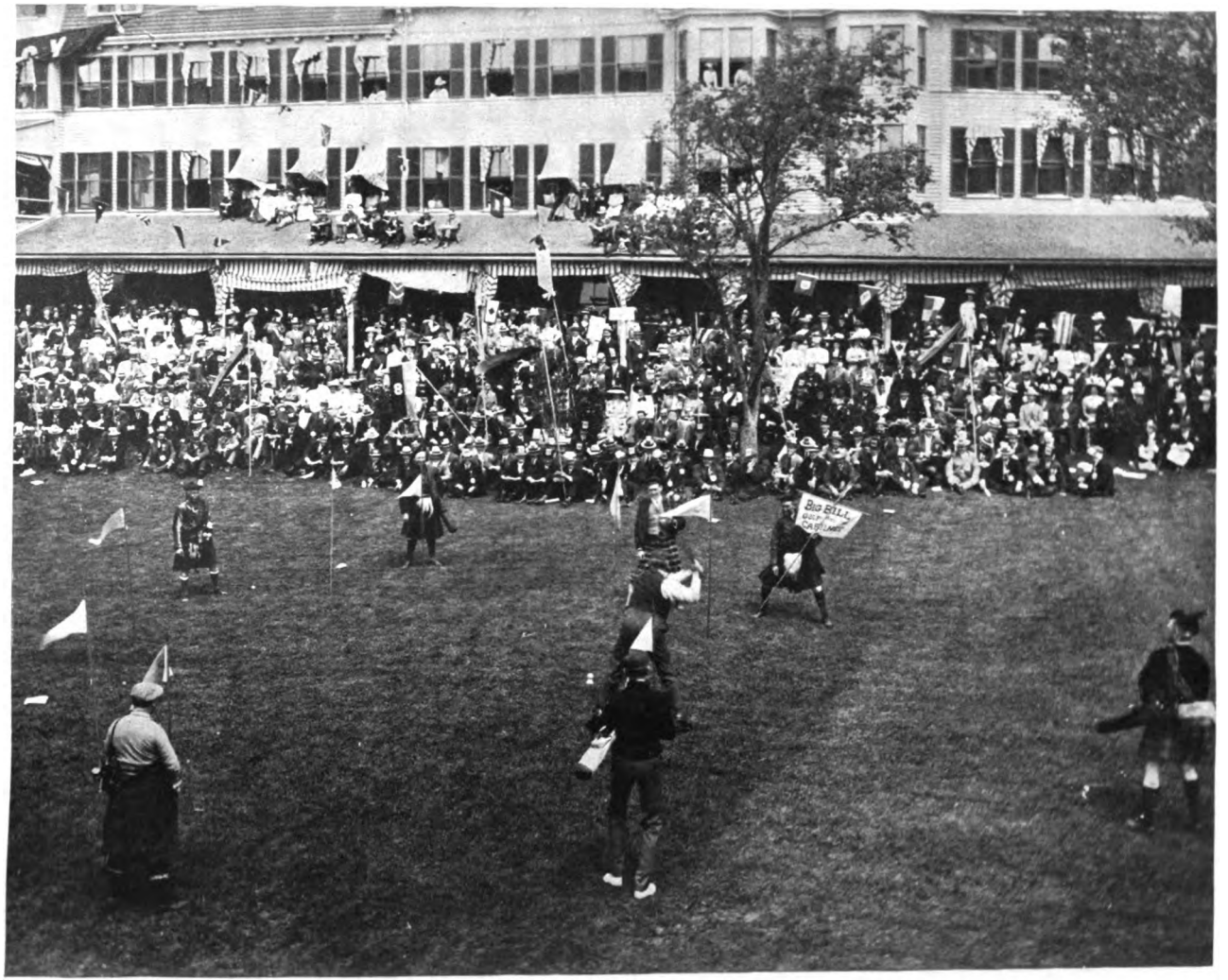

No. 11.—Class of '83.—Big Bill and his Golf Cabinet.

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after the coffee had been served. The whole audience arose to sing the world-famous Stein Song in memory of Mr. F. F. Bullard who composed the music. Then President Webster arose, and as soon as he could get silence presented the long-distance cup to the man who had come the farthest to the reunion. The winner was Mr. J. A. Patch ('00) from Beirut, Syria. It was also found that Mr. Norman Watkins ('98) had come all the way from Honolulu, and he was also presented with a cup. After long cheers for Patch and Watkins, President Webster called the meeting to order and made a ringing appeal for earnest work from the alumni in behalf of Technology.

Mr. Webster aroused great enthusiasm by reminding the alumni of the success of the Institute and of the celebration:—

I need not tell you [he said] that this reunion has been a great success. It has been of very great benefit to the Institute to have you all here together, and it has been of still more benefit to every one of us. We have certainly all had a good time.

This is a critical time in the history of the Institute. Until recently there has been a difference of opinion as to whether or not the Institute could be maintained at its present site. After most careful consideration of this question, lasting over a period of several years, the opinion now is practically unanimous, both in the Corporation and in the Faculty, that the Institute must move to some new site where there is sufficient room for its proper development. [Great cheering.]

The very important question of choosing the best site is now being considered by a special committee of the Corporation, of which the president of the Alumni Association is also a member. This is a move which the Institute cannot make without material aid, and we who have received so much from the Institute must help to the best of our ability. [Cheers.] The members of this Association have done a great deal for the Institute in the past, but now the time has come for us to render our real service. We must return service to the Institute in this critical period that is commensurate with what she has given to us. Those who are not in a position to give money can do equally effective work by making the needs of the Institute known to friends who could be induced to contribute.

It is especially important that this effort be made in all parts of the country. The Institute is of national importance, and our efforts should not be confined to New England.

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This question of a new site will undoubtedly be brought up before our new Council in a definite way, and, after having the sanction of that body, an appeal will be made to all. I want to urge upon you to respond generously and promptly and with the same enthusiasm you have shown during this reunion, for the most difficult part of this work is to get it started. [Cheers.] Dr. Maclaurin will explain this whole matter more fully to you later this evening.

The Council which you have recently elected gives us for the first time a thoroughly representative body to handle the business of this Association. This Council has a member from each class, also from nearly all of the local alumni associations, and several members at large, and puts us in a position to give to the Institute the benefit of the experience of its graduates in the broadest possible way. This Council is working in co-operation with the Executive Committee of the Institute and with the Faculty, and at the request of the Executive Committee has already appointed special committees to deal with several important problems in connection with the Institute's work.

These committees in most cases will work with similar committees of the Corporation, and in that way the different departments will get the benefit not only of the advice and direction of its executive officers and members of the Corporation, but also of some of the leading graduates from the departments under consideration.

It is a great honor to be a member of the Council, and it is particularly important that, as vacancies occur, we elect representative men, so that its present high standard may be maintained.

Governor Draper, speaking on "Industrial Education," said in part:—

My idea of industrial education is that it should furnish education to scholars who are now, many of them, attending our public schools, so that the total number of pupils to be educated will not, of necessity, be materially increased, but that it will simply be furnishing a greater choice of education to these pupils who are going to school.

I therefore believe that, if these schools are properly located and wisely started, they will tend to take care of the natural growth in number of pupils, and that it will simply be the building and starting schools for industrial education rather than building more high and grammar schools under the present system.

In various sections of the country in the Commonwealth it will be neces-

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sary for several towns to combine in the establishment of an industrial school. In cities, of course, that will not be so. Industrial schools in one section will furnish education on the basic principle of agriculture, in another section of mechanical pursuits having to do with working of iron or steel, in another preparation for the great textile industries, in another the learning how to work wood or leather, etc. No one industrial school can supply full information in all these directions, but different schools in different sections of the state can furnish special information in all these and many other directions.

President Maclaurin was received with wild applause. He said:—

We are here on the last night of this great reunion, for which many of us have been thinking and planning for months. I feel sure that we all owe a deep debt of gratitude to all those who have worked so hard to make the arrangements so completely satisfactory. It has been a happy and an inspiring time for every one of us. I believe that this reunion has added a year to your life,—made you all feel younger,—and a man is just as old as he feels.

Not only has it been to yourselves a happy time, but it has been an especially inspiring time to the members of the Faculty. I think too much criticism has been made in recent years of the teaching profession: its inadequate emoluments and its narrowing influence have been unduly emphasized. Its splendid compensation, in my judgment, is the opportunity it affords to take part in a gathering such as this. It has put new life and new enthusiasm into the most faded member, while to me it has been a revelation and an inspiration,—a revelation of what the Tech spirit really means.

I would not have thought it possible in an institution such as this, which is largely lacking in the outward directions of college life such as I knew in prehistoric days [laughter], when I was an undergraduate. I would not have thought that such an institution would foster such a genuine feeling of loyalty and enthusiasm.

It has shown me what it means to have loyal, enthusiastic men at one's back; it has put into me something of the genuine and glowing optimism of the West; and I think it must help me to face those serious problems I know I have to face in the future.

Now I am not going to pretend—for it would be mere pretence—that I am frightened by these problems. I don't think they are going to be so terribly serious. But, as Governor Draper reminded us the other evening,

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we shall have to do much more than congratulate Technology, as we have been doing so much of late, somewhat to the detriment of our voices. We shall have to think Technology, work Technology, dream Technology, and do very little else for many a day to come.

There is so much to be done that there is found to be difference of opinion as to what is the best thing to do first. I for one am perfectly definite that the thing to do first is to secure a new site, and on that new site raise a new Technology with all the good characteristics of the old Technology. [Loud cheers.] I may say that this demand for a new site is not the result of any sudden judgment, but that it has been slowly forced upon the convictions of practically all those who have seriously studied the problem and have the interest of Technology at heart.

It would take up too much time if I were to try to give you all the reasons for the change of site. Suffice it to say that practically every one who has considered the subject seriously agrees that a new site is absolutely essential.

Now we must have more than a site. Of course, we must have buildings on that site. But the first thing for us to do is to centre our energy on the site. That is by far the most difficult problem we have to face. The question of what is to be our site is, of course, an extremely important question. I would be afraid to say how many sites have been suggested,—perhaps thirty or forty. To a large number of those I have just the classical objections. One is that they are very hard to find, and the second is that they are of no use when you have found them. [Laughter.]

But there remain several sites which, if we can acquire them, would be admirably adapted to our purpose. The practical question is, Can we acquire them? Now, if you have any strong convictions as to what is the best site, I should be delighted for you to give me the reasons for those convictions. But the question of the site to be got must be largely determined by the cost of the site. In general, I may say, it has been estimated that something in the nature of $1,000,000 will be necessary to purchase a suitable site.

There has been no regular canvass to obtain money for that purpose, but a few citizens who have been privately consulted—a few close friends of the Institute—have indicated their willingness to subscribe something like from $150,000 to $200,000 toward the purchase of a site [loud cheers], with the condition that the whole thing is completed within a specified time.

Now it may be your opinion as practical men, having sat down and counted the cost, that we must come to the conclusion that the cost is too great. But I hope most sincerely that you will not take that view of the

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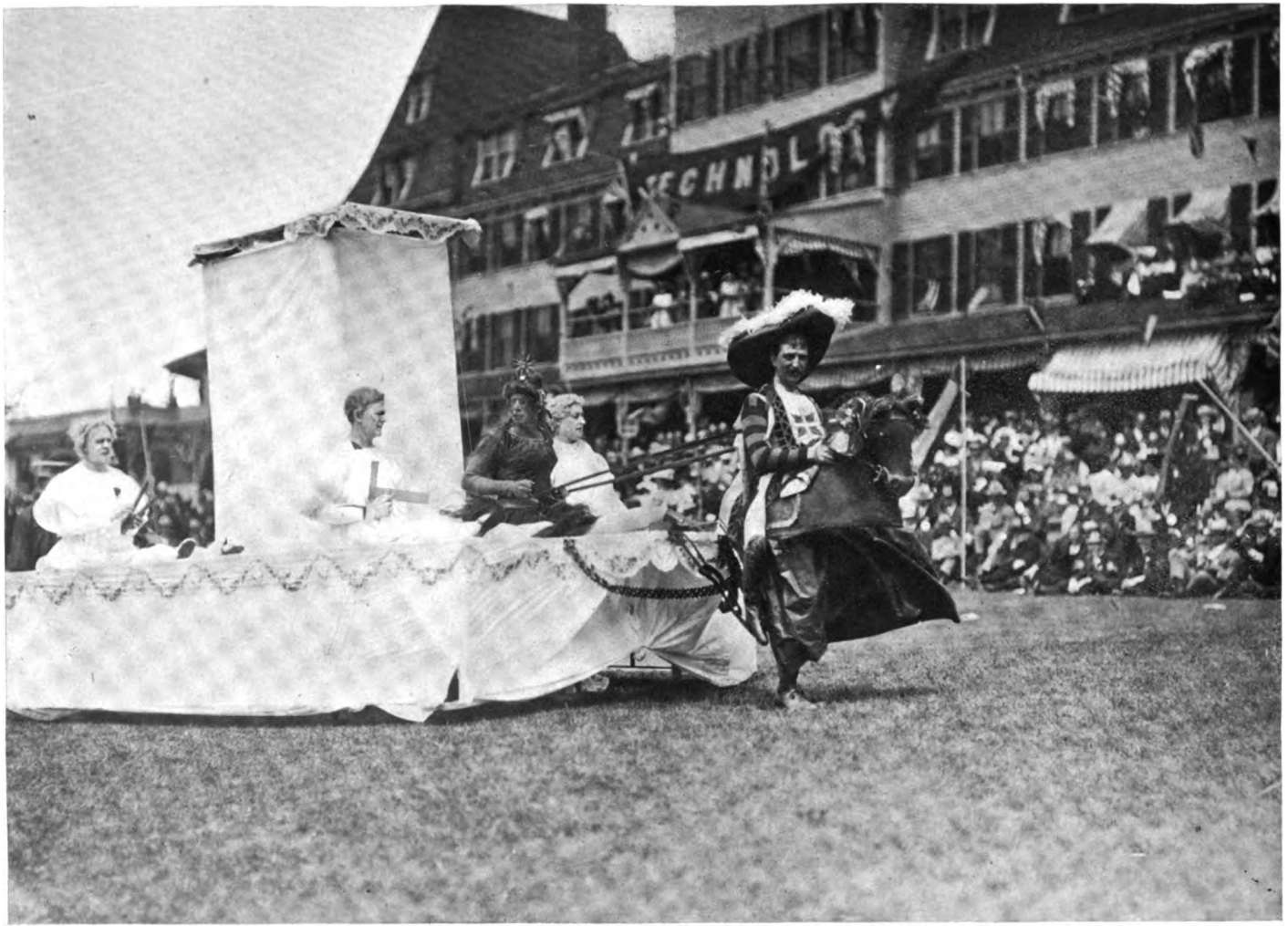

No. 62. The Class of '85 Presents a "Sight"

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No. 27. Class of '86. – Mrs. Baer ('86) and her Two Tech Sons

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cost, for it seems to me that the all-important, the one great question for us to consider is the cost of doing nothing.

Consider just for a moment what that would mean. It would mean that this Institute of Technology, which has been planned so nobly and built so solidly and so well, which has stood the test of time, which has proved its stability and usefulness in countless ways, which has sent out so many men throughout the world to advance the bounds of knowledge, which has helped so much to develop the natural resources of this country, which has made for itself a unique position in the educational world,—that such an institution should now, through lack of care on our part, begin to crumble and erelong fall. I feel confident that this State, proud as it justly is of its devotion to education and ever interesting itself in solid work, will not allow such a thing to happen, and I feel confident that you will not consider the possibility of allowing it to happen.

But the problem is not going to be solved by mere enthusiastic talk. It must be attacked in a practical way, with business-like organization. I ask you now to set yourselves at once to organizing your efforts and to seeing what can really be done. To me it would be unwarrantable liberty to ask you to give money, knowing as I do the sacrifices you have made in this direction. It is not so much money that I ask for. I know you will give that as far as you can. The problem presented to you is that of giving time, thought, and energy to the work of interesting other people in this Institute.

Technology is no local affair, though we are proud of its connection with Boston. Officially, however, it is a State institution. It is the Massachusetts Institute of Technology, and its connection with the State could not be more aptly indicated than by the presence here tonight of one whom we delight to honor,—our own Governor, Mr. Draper. [Cheers.] But not even the great State of Massachusetts is broad enough to contain our interest. Ours is a national institution. We obtain nearly half our students from beyond the borders of this State, and after graduation they are scattered more particularly throughout the length and breadth of this Union, and even beyond that. Its national importance is recognized by the central government.

This institution is certainly not going backward. It has been a great national asset, and it is going to continue a great national asset and become a greater one, because I know you are going to rally with all your enthusiasm to its support, and make its further development not only possible, but inevitable. You are going to bring home to the almost countless inter-

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ests throughout this country—the interests affected by the higher technical education, whether in manufacturing, transportation, in mining, in engineering in all its various branches, whether in architecture or in the great work of serving the public health—the strong claims this Institute has on their sympathies. And when you have done this, as I know you will with tact and energy and patience, then surely you will have your reward. [Cheers.]

There will be no more talk of merger with Harvard, said President Maclaurin finally, amid tremendous cheering, but I think we should be false to every precept of decency if we did not reciprocate most heartily the genuine expression of good will that President Lowell has so recently made. [More cheering.] And I think we should be equally false to every precept of common sense if we failed to do our utmost to co-operate with Harvard wherever such co-operation is possible. [Cheers.] I believe that in the domain of applied science there is much that we can do for our mutual help, but, to make co-operation real and practical, we must be strong enough for independence. [Applause.] May this be the great practical result of this great reunion. [Cheers.]

Former President Arthur A. Noyes dealt with student life at the Institute. He said:—

I fear there is much misapprehension about our situation in this respect, which is doing us a great deal of harm. It is not realized that in this direction lies one of our great advantages over other colleges. At times some even of our alumni have expressed the opposite opinion. One must, however, I believe, entirely ignore either the conditions at the colleges or those now prevailing at the Institute, to hold such an opinion.

The serious condition of the colleges is well shown when, with reference to the subordination of the intellectual to the athletic and social interests, one of our leading college presidents, who has done most for the improvement of such conditions, can say: "So far as the colleges go, the side-shows have swallowed up the circus, and we in the main tent do not know what is going on, and I am not sure that I want to continue under these conditions as a ring master. There are more honest occupations than teaching, if you cannot teach."

We of the Institute may well be glad that we have so far escaped these evils, and heed the lessons which they give us in its bearing on the future development of our student life. The question for us is only, Are we making the mistake of going too far in the other direction?

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The Institute maintains, and I hope always will maintain, the principle that during the short eight months of each year during the four years of the student's career all other activities (except those of maintaining health) must be absolutely subordinated to the intellectual ones. But this does not mean that the other sides of development are to be entirely neglected.

We have chapters of 17 Greek fraternities with a total membership of 356 students, or about 25 per cent. of the whole. We have six local societies, primarily of a social character, with 126 members. We have a large number of athletic teams. We have musical clubs, professional societies connected with almost every course, territorial organizations, state clubs, British Empire Association, Southern Club, high school clubs, etc. Then there are the publications, involving a combination of business, journalistic and artistic activities, and finally the Tech Show.

Our student life is upon a thoroughly sound basis, and our student spirit is admirable, so that we may feel confident that student activities will be properly developed. We may therefore feel sure that this problem which is so extremely perplexing to the colleges is finding a most satisfactory solution with us.

Samuel J. Elder was next called upon. In speaking of the welcome to President Maclaurin, he said:—

This is a welcome not merely from this Institute, nor from this ancient city, nor this proud state, but a welcome from the country.

I do not need to call the attention of your distinguished guest, who early visited this country, and whose recent years here have shown it to him, to the intense, vital enthusiasm of Americans to their school and college.

In the far-flung battle line of our industrial life, in the mines, in the canals, in the gigantic public works of the day, there are Tech men everywhere. They return in magnificent numbers and with intensest loyalty to their academy halls. There is no disintegrating force in their highly specialized studies.

We need make no apology for this American enthusiasm. It crystallizes the finest ambitions and ideals of our youth. It is a part of our upbearing.

We welcome you, sir, into this inheritance. Some may call it mere sentiment, and so it is, but it is one of the best sentiments of our lives. It is a part of our faith. It spreads out into many branches, but is always true to the parent trunk, and draws its nourishment from it. As Holmes said,—not the genial Autocrat of the Breakfast Table, but his distinguished son: "It is all a symbol, if you like; but so is the flag. The flag is but a bit of

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bunting to one who insists on prose. Yet its red is our life-blood, its stars our world, its blue our heaven. It owns our land. At will it throws away our lives." And so of school and college. Loyalty to them dominates us, compels us, owns our lives.

The menu which the banqueters discussed was as follows:—

MENU

Consommé Printanière Royal
Medallion Penobscot Salmon, Sauce Hollandaise
New Peas
Fillet of Beef, Larded, Fresh Mushroom Sauce
Potatoes aux Fines Herbes
String Beans
Sweetbreads, Glacés, with Asparagus Tips
Cigarettes
Roast Jumbo Squab, Farcie
Lettuce and Tomato Salad
Fancy Frozen Pudding
Ices
Assorted Cake

Coffee Cigars

Moët & Chandon

Imperial Crown Cuvée A. A.

Apollinaris

The preparation and serving of the dinner was generalled by Mr. Joseph J. Sheehan, steward of the Eastern Yacht Club, and the perfection of cookery and service for such a multitude, in a hall where the entire kitchen had to be installed, was little short of wonderful.

The committee in charge of the banquet consisted of C. C. Peirce ('86), chairman, Professor H. W. Gardiner ('94), Arthur D. Little ('85), Gelett Burgess ('87), and W. E. Spalding ('85).

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PRESIDENT NOYES' ADMINISTRATION

A Period of Positive Achievement and Progress—The New Day of Co-operation begun

In making a review of the two years' administration of Acting President Noyes, which has just come to an end, one is struck by the fact that the period has been a time not of transition, but of positive achievement and progress. Long and intimate acquaintance with the Institute and its problems made it possible for him to discern such matters as he could deal with fittingly, and to take them up without delay. This knowledge, combined with his courage and straightforwardness, has made it possible for the Institute to go forward surely and steadily.

The first essential to such advance was a better understanding between the different bodies responsible for the welfare of the Institute. It was fortunate that at the time when these bodies were acutely conscious of this need, the head of the Institute was a man who could bring to bear upon the situation his powers of truth and tact. Thanks in large measure to these powers, conditions have changed. The new day of co-operation has already begun.

Another way in which President Noyes' individuality has told effectively is in his statements of the ideals and methods of the Institute. Seeing the Institute as a living organism, knowing its past and its present, and with a keen vision into its future, he had an opportunity which a happy inspiration and a clear sense of duty enabled him to take advantage of. Accordingly, he has presented on various occasions, not merely with no hint of deprecation, but with the force of hearty conviction, the fundamental and inevitable reasons for the type of education for which the Institute stands. Efficiency in education is naturally his watchword; and his addresses are charged with a sense of the high mission of the Institute to maintain its position as a leader in American education by preach-

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ing and practising this gospel. In so doing, President Noyes has shown himself to possess that quality of leadership which makes most for efficiency, the power to discern the thing in the immediate future which needs first to be done, and the power to bring others to his way of thinking. In the next few years, which are likely to see a relentless application of the test of efficiency to institutions that have hitherto gone scot-free, the timeliness of this work of his will be widely felt. Notable among these addresses, and perhaps the least known, is the "Talk on Teaching," which he delivered last year to the instructing staff of the Institute. The address, which deals with the fundamental problems of teaching as applied to the work of Institute instruction, is as impressive in its scholarly sincerity as was the occasion on which it was delivered, when those charged with the work of instruction at the Institute met together in the interest of their welfare as teachers. On all such occasions, whether addressing Faculty, students, or alumni, Dr. Noyes has spoken with the force of individual conviction, respecting his audience by offering them ideas instead of platitudes and genialities. He has not sought to avoid offence by being tame and safe: he has expected to arouse opposition. At a time when silence would have brought him universal praise, he has accepted all the consequences of fearless speech.

The same ready and thorough knowledge of the Institute which has given weight to Dr. Noyes' articles and addresses rendered it possible for him without loss of time to begin upon many Institute matters that could be carried forward at this time independently of the overshadowing financial problem. A few of these affairs have been completed; a few have come to naught or have been suspended; most of them are well under way and waiting for his successor to take up. In these matters, though Dr. Noyes' work is merged in that of committees of the Corporation, of the Faculty, of the alumni, and of the students, yet his influence has counted for much. Whatever the matter in hand, he has brought to the discussion ideas carefully thought out and the point of view of the general administrative officer on whom ultimate responsibility rests. The appointment of the committee of the Corporation on the pro-

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motion of welfare of students, through whose aid the Tech Union was built, the thorough convassing of the need and the possibility of a requirement of four or five weeks of summer work at the end of the first year of the Institute course, the recent hopeful activity of the Committee on Site, are some of the most noteworthy examples of President Noyes' faculty of getting his ideas expressed in terms of discussion and action. In their diversity they make it clear that he has not confined himself to any single department of Institute life, but has made himself felt everywhere,—in the social life of the students, in the improvement of the courses of instruction, and in the paramount issue of securing an adequate material expression of what the Institute stands for in the community in which it makes its home. These are the three great questions that face the Institute in the next few years; and nothing testifies better to President Noyes' ability as an acting president—a real executive—than his discernment that, with problems requiring so long a time for complete solution, he could do much to expedite the labors of Dr. Maclaurin by overcoming the initial inertia which is such a clog on the beginning of all large enterprises. Nowhere have the strong common sense which is such a distinctive quality in Dr. Noyes' scientific work and his firmness of purpose been better shown than in these necessary beginnings. Mere planning and speculation in itself has had small interest for him. His only questions have been whether the thing proposed was sound and right, and whether at the moment it could be profitably begun. Under such conditions it is difficult and certainly beside the point to attempt to assess and to publish his contribution in this respect to the progress of the Institute in the last two years. It is enough that those who have worked with him on these committees testify to his thoroughness, his impartiality, and his resourcefulness as an executive officer.

The thing of most significance, however, in this brief period of Institute life is the influence, not official, but personal, which President Noyes has come to have. It is the result of a force of character which, in impressing itself on others, works always through candor and sympathy. "On occasions when I have talked intimately with students," he remarked in his talk on teaching, "I have often

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felt how much more they need advice about *life* than about chemistry." And again, in an interview published at the time of the election of President Maclaurin, he said, referring to his own retirement: "I have no hesitation in saying that I would rather be President of the Institute than to hold any other position in the country, provided I felt myself well fitted to fulfil the duties of the place. I have, however, clearly recognized that this would not be for the true interests of the Institute; for it needs at its head a man with a larger working capacity, with a greater aptitude for the public and social sides of the work, and with certain other important qualities more highly developed."

Such examples, merely the first that come to mind, may help to explain how it is that this influence is not of the executive officer, but of the man himself. To such disarming sincerity and sympathy every one of the groups that make up the Institute as a whole has responded, each after its own kind. The loving-cup purchased by small contributions from the entire student body, the resolutions of the Faculty and of the Corporation, the hearty cheers of the alumni during the recent reunion,—all these testify, though inadequately, to the gratitude of Technology men that the devoted service of a wise leader and a true friend has been made a part of the life of the Institute.

Alma Mater, 1909: A. A. N.

Mother, among thy children who deserve
  Thy living praise, will any hold his name
  In their remembrance, when a formal fame
Join his with others' who, as men observe,
Did larger service,—his who did not swerve,
  Although men called him and although there came
  The chance to grasp their glory, from his aim,
Not to be so remembered, but to serve?

Dear mother, though the world sees not, or sees,
  Thou hast, for all thy loyal loyal praise;
    Yet these which have desired that there be told
No praise of them in the world's louder ways,
  Thou most shalt cherish, mother, and shalt hold
    Nearest thy heart, that lives by such as these.

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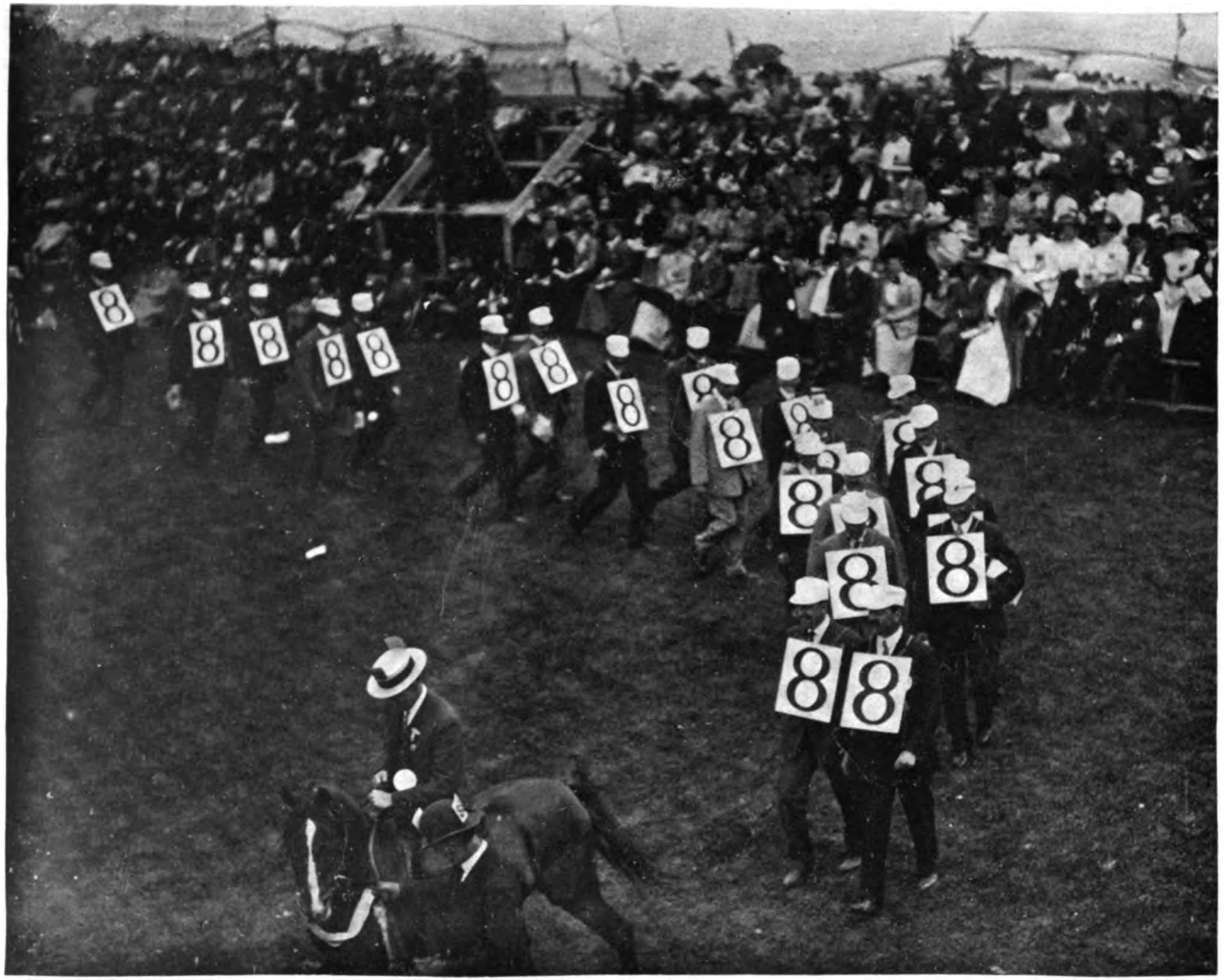

No. 51. Stunt of the Class of '88

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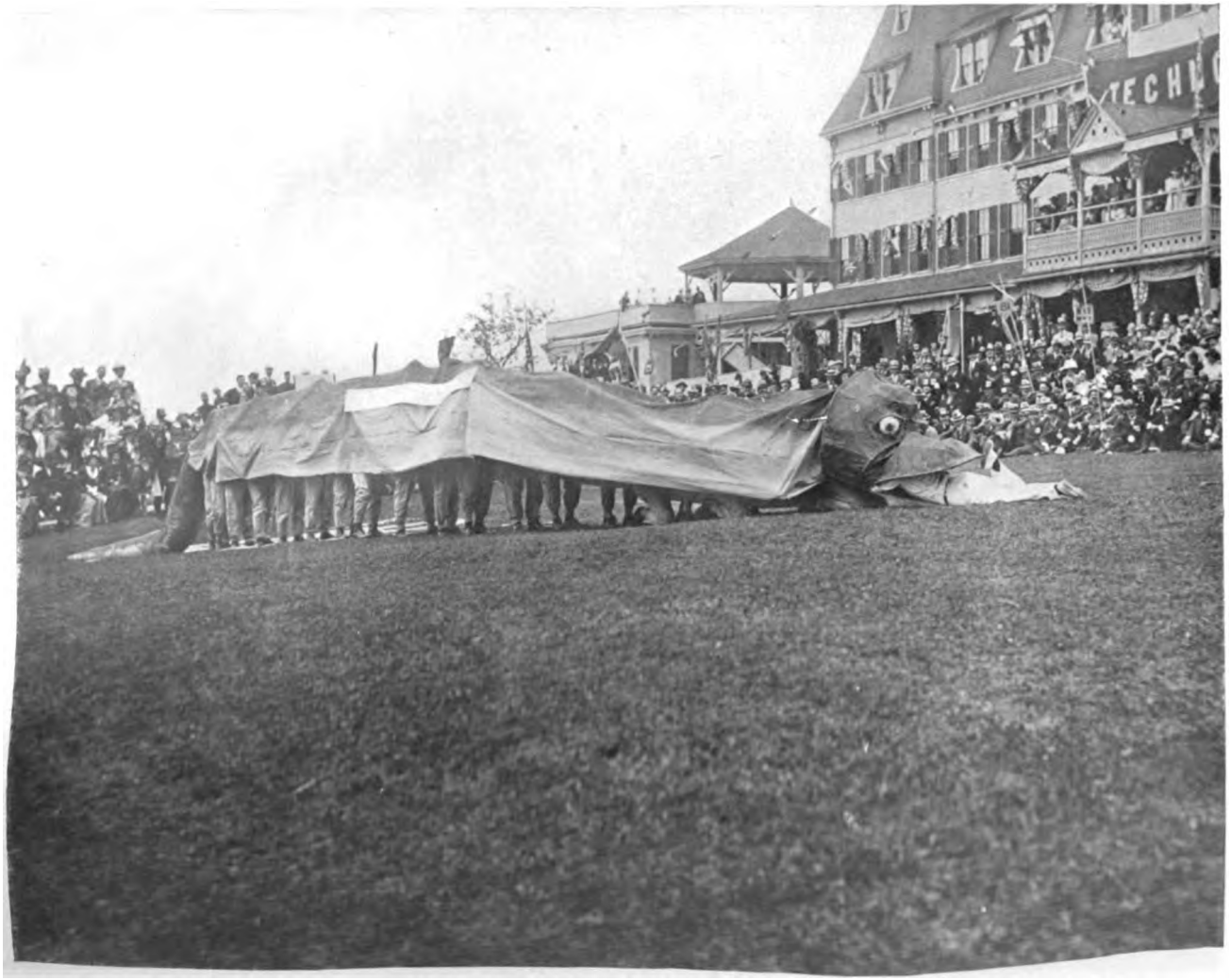

No. 42. Stunt of '91.—The World, the Money Power, Swallowing Youth

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HONORS FOR DR. NOYES

A Loving Cup presented by the Student Body.—Resolutions of the Faculty and Corporation

At a general convocation of the student body of the Massachusetts Institute of Technology held in Huntington Hall May 21st, the esteem in which Dr. Arthur A. Noyes, the Acting President, is held was fittingly shown.

Contrary to custom, the convocation was called by the Dean, and not by the President. James H. Critchett, president of the senior class, acted as spokesman for the student body, and presented Dr. Noyes with a silver loving-cup, bearing this inscription: "Presented to Dr. ARTHUR A. NOYES by the Undergraduates of the Massachusetts Institute of Technology in gratitude for his faithful and efficient service, his warm-hearted sympathy and his unselfish devotion as Acting President, 1907–1909."

The cup was purchased by subscription among the undergraduate body, practically every student contributing. The cup stands about twelve inches high.

After the presentation, Dr. Noyes acknowledged the spirit of the men in making the gift, and thanked them for their zeal and co-operation in the work of the Institute.

The convocation, which was the largest of the year, was remarkable for the enthusiasm shown. Dr. Noyes was greeted with cheer after cheer, and at the conclusion of his remarks the demonstration lasted for many minutes.

The students followed close on the example of the Faculty in their expression of affection and gratitude. At the last regular faculty meeting of the year the following resolution was adopted by a unanimous rising vote:—

Resolved, That the members of the Faculty of the Massachusetts Institute of Technology desire to express to Dr. Arthur A. Noyes, upon his concluding

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his work as Acting President, their deep sense of the service he has rendered by his admirable executive ability, his power of initiative, his untiring labor, his unfailing tact and his contagious enthusiasm. Under his skilful management a period which might easily have been one of discouragement and detriment has been marked by distinct and constant advance in the affairs of the school and by the inception and progress of new and excellent measures in its administration. They also wish to declare their admiration for the unselfishness with which he has laid aside for the time being the original work in which he has gained such distinction, in order to devote his energy to the interests of the Institute as a whole; and they thank him for the kindly and helpful spirit which has marked all his relations toward them, both official and personal.

On June 4 the Corporation passed the following resolution in appreciation of the work of Professor Noyes:—

The Corporation of the Massachusetts Institute of Technology desires to place upon record its cordial appreciation of the exceptional service, as Acting President, rendered to the Institute by Professor Arthur A. Noyes since July, 1907. Giving up temporarily that work of research which was especially congenial and through which he had brought high credit to Technology, Dr. Noyes undertook the duties of administration at a time when that responsibility was unusually difficult. He performed those labors not only with characteristic fidelity, but with distinct ability and success. To the task of finding a permanent president he brought special knowledge and untiring zeal. Not satisfied with the simple maintaining of established policies, he instituted new ones, and carried them so far and so well forward that he places the Institute in the hands of his successor in a condition not only excellent in itself, but full of the promise of immediate and important growth.

Growing in Influence

The advertising returns for this volume of the REVIEW will be about three times that of last year. The number of copies issued during the year will be approximately 25,000. The rate is low, and the quality of the audience high. The value of the space is shown by the character of the advertisers.

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MEETING OF THE ALUMNI COUNCIL

Important Committees Appointed to Co-operate with the Corporation—Research Work to be Extended

The first meeting of the Alumni Council was held at the Technology Club, May 12.

On account of the press of other matter the REVIEW will only give a synopsis of the proceedings of this meeting, and will publish the full report of Secretary Humphreys in the October issue.

The action of the meeting was based upon a communication of Acting President Noyes, in which he suggested that it would seem desirable to appoint a number of committees on the various Institute departments which have at the present time difficult problems demanding consideration. These committees might co-operate with the corresponding visiting committees of the Corporation, joint meetings being held when it seems appropriate.

Dr. Noyes suggested that committees be appointed at once to deal with the following important subjects: a camp for the Surveying Summer School of the Civil Engineering Department; instruction in refrigerating and gas engineering in the Mechanical Engineering Department and equipment for the same; the work and equipment for the Mechanic Arts Department. Dr. Noyes also suggested that the Council provide for initiating and arranging plans for the existing local alumni associations, to assist in forming new associations; to secure speakers for the annual meetings of the associations and to keep the secretaries of these associations in touch with the development and needs of the Institute. He also suggested the idea of promoting the foundation of Institute scholarships in connection with the more important high schools of this part of the country.

It was voted that a special committee of three be appointed by the chair to consider the question of establishing a camp for the

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Surveying Summer School of the Civil Engineering Department; that a committee of three be appointed by the chair to consider the question of instruction in refrigerating and gas engineering in the Mechanical Engineering Department; that a committee of three be appointed to consider the question of scholarships for sending boys to the Institute in connection with the more important high schools.

The president received a suggestion from Mr. Henry Howard, '89, that the Institute give some particular attention to aëronautics, and after discussion it was voted that a special committee of three be appointed by the chair to investigate and report on this matter.

The Institute Committee, through its president, asked that the Alumni Council appoint a committee of three to act as an advisory committee for the Institute Committee, as it was hoped by this means that students might keep in touch with the alumni and thus afford full co-operation. It was voted after consideration that a Committee on Student Welfare, consisting of three persons, be appointed by the chair to keep in touch with all undergraduate interests and to report on the same at the meetings of the Council; also to make such recommendations in regard to the welfare of the students as may seem wise. This committee to act as an advisory committee to the Institute Committee and other student activities, when requested.

Mr. Harry A. Rapelye, '08, advocated the establishment of a research laboratory of engineering, and it was voted that a committee of three be appointed by the chair to consider the question of establishing such a laboratory, which would comprise research work in the Mechanical, Electrical and Civil Engineering Departments.

The question of the payment of dues was brought up, and after discussion it was decided that the Council would make it its business to collect all moneys due the Association with the exactness of a business house, and that every proper means to make this collection should be employed.

President Webster has appointed three of the committees, as follows: surveying summer camp, Leonard Metcalf ('92), chair-

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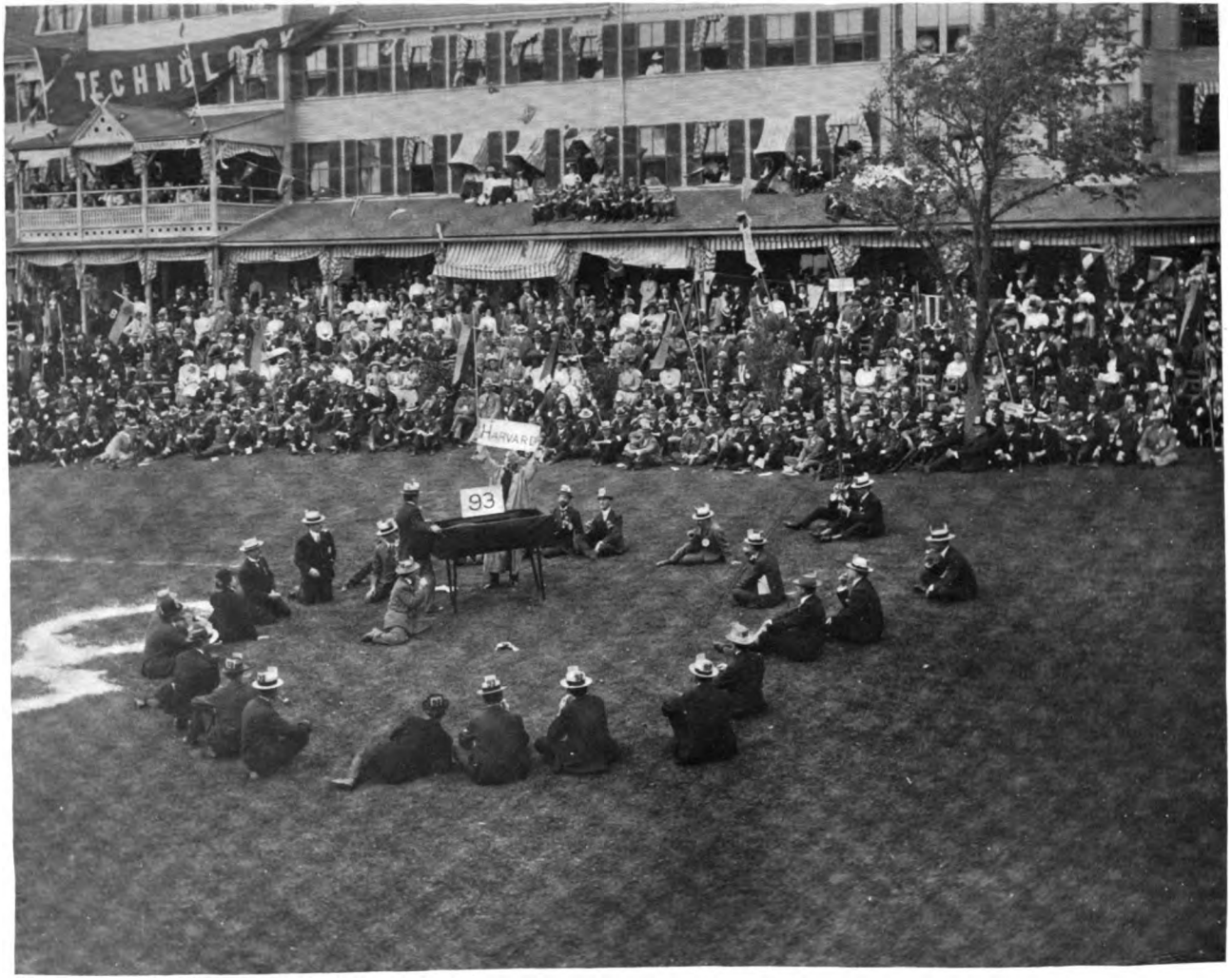

No. 3. Stunt of the Class of '93

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No. 35. Stunt of the Class of '06.

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man, A. F. Bemis ('93), F. H. Fay ('93); Aëronautics, Henry Howard ('89), chairman, Butler Ames ('96), Henry Morss, '(93); Student Welfare, Professor A. A. Noyes ('86), chairman, G. D'W. Marcy ('05), Howard L. Coburn ('98).

Photographs of the Reunion

Through the efforts of Professor W. H. Lawrence ('91), chairman of the committee, we have a complete photographic record of the Reunion. Many of the stunt pictures are printed in this issue of the REVIEW, and we have good views of nearly everything that happened at Nantasket.

These pictures may be had from the Notman Photographic Company, 3 Park Street, Boston. Order by number as shown below. Price for large banquet flashlight picture, which is so wonderfully clear that three-quarters of the faces are portraits, $2.50; small banquet, $1.50; panoramic groups, $2.00; all 8 x 10 inch pictures, sixty-five cents each.

The subjects of the 8 x 10 inch pictures with numbers are:—

No. 15a, disembarking at Nahant; No. 6a, ball game at Nahant. The Nantasket pictures are: No. 28, steamer "Myles Standish" approaching Nantasket; No. 21, closer view of "Myles Standish"; No. 33, march along the beach; No. 55, the '09 drum corps; No. 31, band playing procession by in front of Atlantic House; No. 56, Professor Richards and the "Friendly Rope"; No. 23, stunt of '76; Nos. 10 and 25, stunt of '77; No. 13, stunt of '78; No. 40, stunt of '79; No. 7, stunt of '80 and '81; No. 17, stunt of '82; Nos. 11 and 19, stunt of '83; No. 12, stunt of '85; No. 27, stunt of '86; Nos. 6 and 29, stunt of '87; No. 51, stunt of '88; Nos 5 (Alma Mater) 58, (Youth) and 42 (Dragon), stunt of '91; No. 4, stunt of '92; Nos. 22, 3 and 14, stunt of '93; No. 38, stunt of '95; Nos. 9 and 35, stunt of '96; No. 52, stunt of '98; No. 32, stunt of '99; No. 53, stunt of '00; No. 2, stunt of '02; No. 39, stunt of '03; No. 37, stunt of '04; Nos. 54 and 16, stunt of '05; No. 8, stunt of '07; No. 36, stunt of '08; No. 15, stunt of '09.

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PENDER SUCCEEDS CLIFFORD

Johns Hopkins Man becomes Professor of Theoretical and Applied Electricity

Professor Harold Pender, of New York city, has been chosen to succeed Professor Clifford as Professor of Theoretical and Applied Electricity at the Institute.

Professor Pender was born in Tarboro, N.C., 1879. He received his primary education in the public schools of Baltimore, Md., and at McDonough School, near Baltimore; received the degree of B.A. at Johns Hopkins University in 1898 and Ph.D. at Johns Hopkins University in 1901. His special subjects were physics, electrical engineering, and chemistry. He held a Hopkins Scholarship for the years 1896–97 and 1897–98, and a University Scholarship for the year 1898–99. He was graduated second in his class, and was elected a member of the Phi Beta Kappa Society in 1898.

During the last two years of his graduate work at Johns Hopkins he assisted in the laboratory instruction of undergraduate students in the department of physics. In the summer of 1902 he gave a course in physics in the summer school at Syracuse University, and was for a time instructor in physics at Syracuse University.

In December, 1902, he was invited by M. H. Poincaré, of La Sorbonne, Paris, to carry out in the laboratories of the University at their expense certain research work on the magnetic effect of moving charges of electricity, in which research he had been engaged in this country for the preceding two years. He therefore resigned the instructorship at Syracuse University in January, 1903, and spent the next four months in Paris, where he brought the research in question to a successful conclusion. The necessary funds for this work were supplied by the Carnegie Institution of Washington, D.C.

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On his return to this country in 1903 he entered the shops of the Westinghouse Electric and Manufacturing Company at Pittsburg, Pa., and in the fall of 1903 took a position in the engineering department of that company. While with the Westinghouse Company, he made a special study of the heat radiation from large transformers, and developed an accurate method of predetermining the size of cooling coils used in the water-cooled type. He also had charge of the testing of the sheet steel used in the construction of transformers and other apparatus.

In the spring of 1904 he entered the electrical engineering department of the New York Central Railroad. His work there was chiefly in connection with the transmission lines and sub-stations then being designed for the New York terminal electrification.

In 1905 he became associated with a firm of consulting engineers in New York. He has been engaged on a number of important pieces of work; namely, the report of the Commission on Electric Lighting for the City of New York, a report to the International Railway Company of Buffalo on their contract for water power, a detailed experimental investigation of the manufacture and annealing of the so-called "Silicon Iron," the electrification of the Cascade Tunnel of the Great Northern Railway, various reports on the possible hydro-electric developments along the Northern Pacific Railway and the possible electrification of certain sections of this railroad, and a report to the Public Service Commission of New York on the energy meters in use in New York city.

He is the author of a large number of professional papers published in the *Philosophical Magazine*, the *Comptes Rendus*, and various electrical engineering journals.

This issue of the REVIEW is of such general interest that it is being sent to every former student of the Institute. Technology needs and deserves the whole-souled interest of every man, and we believe this will be heartily accorded when all of her sons come to know that she leads the van of educational progress.

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DINNER TO PROFESSOR SWAIN

Former Pupils meet to express their Appreciation of his Work

Former students of the Massachusetts Institute of Technology joined in a complimentary dinner to Professor George F. Swain at Boston on the evening of April 30. Professor Swain, who leaves the Institute shortly to become Professor of Civil Engineering at the new Graduate School of Applied Science at Harvard University, has been on the Faculty of the Institute continuously for twenty-eight years. About seventy-five men, many of them coming long distances, gathered around the tables. Addresses by prominent graduates of the Institute told of the sentiments of Professor Swain's fellow-students and pupils toward him. The speakers included:—

The toastmaster, Mr. J. Waldo Smith, chief engineer of the Board of Water Supply, New York City; Mr. Charles A. Stone ('88), member of the Corporation of the Institute and member of the contracting firm of Stone & Webster, Boston; Professor Alfred E. Burton, Dean of the Institute; Mr. Charles T. Main ('76), Boston; Mr. George W. Kittredge ('77), chief engineer of the New York Central & Hudson River R.R.; Professor William Z. Ripley ('90), of Harvard University; Professor Charles M. Spofford ('93), who is to succeed Professor Swain at the Institute; Mr. Frank L. Locke ('86); and Professor Swain himself.

Mr. Smith spoke particularly of the public service rendered to the country by Professor Swain, and in concluding said: "I believe that engineers should take a much more prominent part in public affairs and in the management and control of public works. The great problems of municipal government must be worked out in the future by the engineer."

Professor William Z. Ripley, of Harvard University, a graduate of the Institute in the Class of '90, said that he joined with the others

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No. 52. Stunt of '98—The Radium Ballet

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No. 32. Stunt of '99.—The Faculty in 1915

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in regrets at Professor Swain's leaving the Institute, but he also rejoiced exceedingly that he should have him as an associate at Harvard. He felt that he knew better than many how much there was to admire in both institutions, and that Professor Swain's transfer to the latter institution would do a great deal to bring them closer together, and that the co-operation between the two would aid in making this city and state the greatest intellectual and moral centre of the United States.

Professor Swain expressed his regret at leaving the Institute, and mentioned among his reasons for doing so the opportunity for dealing with smaller classes and the opportunity for doing more intensive work in a strictly graduate school.

He said in closing:—

In making its engineering school a post-graduate school, I believe that Harvard has taken the greatest step that has yet been taken to raise the dignity of the engineering profession. I do not feel that I could decline an opportunity to be connected with the first graduate school of engineering in this country, and one in which so great a work was to be undertaken.

This school will occupy a somewhat different field from that of the Institute. I believe that there should be no conflict, and that there will be the heartiest co-operation. Harvard has left to the Institute the larger field of the four years' undergraduate course in engineering, which will always attract the largest number of students. Of course, the graduate school does not always get the best men, and in the same way in some cases the best men do not get any college training, but I firmly believe that the very best educational training can be given, and can only be given, in a graduate school.

The Motion Pictures

Through the courtesy of Mr. B. F. Keith, of Keith's Theatre, the motion pictures taken at Nantasket have been presented to the Alumni Association. These pictures include the debarkation from the boats, the march along the beach and many of the most spectacular stunts. It is probable that these pictures will be exhibited to the larger local alumni associations during the winter.

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COMMENCEMENT AT TECHNOLOGY

President Maclaurin officiates for the First Time—Huntington Hall Frieze Completed

President Maclaurin made his first official appearance as the head of the Institute when, on June 8, he conferred degrees upon 251 students, of which number 232 were members of the senior class, and received degrees of Bachelor of Science, and nineteen were members of the fifth year class, and received the degree of Master of Science.

The following representative theses were read:—

Course I. Civil Engineering. "An Investigation of the Efficiency and Character of Failure for Different Methods of Anchoring Reinforced Bars in Concrete." B. Y. Burgher.

Course 2. Mechanical Engineering. "An Investigation of the Effect of Spray Nozzles for Cooling Water." A. E. Hartwell.

Course 3. Mining Engineering. "A Report of the Milan Mine." Harry Webb.

Course 4. Architecture. "Design in the Gothic Style for a University Library." A. F. Menke.

Course 5. Chemistry. "An Investigation of the Defects in Single Enamel Coatings on Sheet Steel." J. A. Christie.

Course 6. Electrical Engineering. "A Study of the Relative Advantages and Disadvantages of the Alternating and Direct Current Systems for a Fortification Plant for the Artillery District of the Chesapeake, Fort Monroe, Va." Captain C. C. Carter, U.S.A.

Course 7. Biology. "A Study of the Massachusetts Statistics of Poisoning by Illuminating Gas." F. Schneider, Jr.

Course 8. Physics. "The Magnetic Properties of Saturated Iron." G. E. Washburn.

Course 10. Chemical Engineering. "Determination of the Hy-

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drocarbons obtained in the Distillation of Wool Grease." L. R. Forrest.

Course 11. Sanitary Engineering. "Design and Construction of the Massachusetts Institute of Technology Experimental Sewage Filtration Station at Calf Pasture, Dorchester, Mass." M. R. Scharff.

Course 13. Naval Architecture. "An Investigation of the Application of Taylor's Formula to Turbine-driven Propellers." X. R. Smith.

Course 14. Electro-chemistry. "On the Separation of Oil from Condenser Water by Electrolysis." R. Ellis.

The graduating class is a cosmopolitan one, fifteen of its members hailing from outside the United States. The foreign members are Frederick R. Faulkner, A.B., Summerland, B.C.; Gordon L. Gilkison, Oakville, Ont.; Kevork Madenigian, Aghin, Armenia; Reginald W. Millard, Hamilton, Ont.; Albert S. Peet, Callao, Peru; Rudolf W. Reifkohl, Maunabo, Porto Rico; Ramon F. Munoz, Coah., Mexico; Harold Shaffer, Capetown, S.A.; Miss Rebecca H. Thompson, Kamehameha, Honolulu; Salvador Altimirano, City of Mexico; Albert J. Barnes, Halifax, N.S.; Edgerton M. Bettington, Johannesburg, Cape Colony; Ridsdale Ellis, Leicester, England; Edward E. Wells, Toronto, Can.; and Heenan T. Shen, Foochow, China.

The women who were graduated are Miss Mabel Keyes Babcock, of Wellesley Hills, the only woman who received the M.S. degree, and Misses Helen McGraw Longyear, of Brookline, Elizabeth B. Babcock, of Roxbury, Rebecca Thompson, of Honolulu, and Lahvesia Paxton Caruthers Packwood, of Tampa, Fla.

Class Day exercises were held in Huntington Hall and on the lawn between Rogers and Walker, June 7. President James H. Critchett welcomed the audience in behalf of the class, and then presented the Institute with several panels of frieze which have already been placed in Huntington Hall. The work was executed by the fifth-year class in architecture. An attempt to restore the original frieze was begun in 1905 on the initiative of the class of '95, and the work has now been practically completed.

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This year ten large panels have been finished, all the work being designed and executed by the fifth year men under the direction of W. Felton Brown, instructor in life class. Two smaller panels, containing only single figures, were worked up by members of the fourth-year class. The panels completed this year are: on the west wall, from back to front, "Iron Casting," by J. T. Mohn; "Shipbuilding," by Deland Chandler; "Freehand Drawing," by Cecil F. Baker; "Stone-cutting," by R. J. Batchelder, winner of the $1,000 travelling scholarship prize; and a small panel, "The Carpenter," by F. A. Burton, 1909, designer of the Tech Show poster. On the east wall, from back to front, are: "Iron Working," by W. F. Dolke, Jr.; "Concrete Mixing," by C. C. Ford; "Landscape Architecture," by Miss M. K. Babcock; "Glass Blowing," by C. C. Ford; and another small panel, "The Potter," by K. E. Carpenter, 1909. On the rear wall are two large panels, "Naval Architecture," by Rinker Kibbey, and "General Science," by E. I. Williams, winner of the Roman Academy prize.

The speech of the first marshal, Maurice R. Scharff, was a fine effort, and stirred up the class to a high pitch of enthusiasm. Mr. Garnett A. Joslin, of Los Angeles, was class historian and statistician. The average age is twenty-two years, nine months. The average cost for the man who lives at home during his college course is $2,500; and for those living at fraternity houses and other houses, $4,500. Carl William Gram, the presentation orator, donated two oak settles and a Morris chair to the Tech Union. Mr. James I. Finnie was gift orator, and Raynor H. Allen was class prophet. After the exercises in the hall the audience were entertained at a buffet spread on the lawn. The class of '09 has made a remarkable record in furthering the advance of Technology, and it is evident that it can be reckoned with in the future as a strong force in the Alumni Association.

At this time when strong team work by Tech men can be made so effective every man should lend his voice and hand. "He who is not with us is against us."

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DINNER OF TECH EDITORS

Past editors and business managers of *The Tech* held their annual banquet on the first evening of the reunion at the Hotel Westminster, Arthur W. Walker ('82) presiding as toastmaster. Impromptu talks were called for from H. Ward Leonard ('83), I. W. Litchfield ('85), H. B. Gale ('83), H. I. Pearl ('10), C.-E. A. Winslow ('98), Walter B. Snow ('82), Harvey S. Chase ('83), Arthur D. Little ('85), C. G. Hyde ('96), H. W. Jones ('98), R. E. Bell ('05), and Dudley Clapp ('10).

A permanent association of past editors was organized with the following officers: president, H. Ward Leonard ('83); secretary, C.-E. A. Winslow ('98); treasurer, Thomas W. Fry ('85); executive committee, Harvey S. Chase ('83), A. D. Little ('85), A. W. Walker ('82), together with a member of the present board of *The Tech* to be chosen later. The purpose of this association is to further the interests of the Institute by promoting, extending and conserving those of *The Tech*.

Those present were A. D. Little ('85), I. W. Litchfield ('85), Walter B. Snow ('82), C. G. Hyde ('96), S. E. Fitch ('00), C.-E. A. Winslow ('98), H. W. Jones ('98), W. D. Green ('09), P. R. Brooks ('00), H. W. Leonard ('83), F. W. Hobbs ('89), C. Turner ('09), D. N. Frazier ('11), R. E. Bell ('05), J. Daniells ('05), A. F. Bemis ('93), R. H. Beattie ('93), Dudley Clapp ('10), R. H. Ranger ('11), H. I. Pearl ('10), R. S. Bicknell ('10), H. S. Chase ('83), H. B. Gale ('83), H. S. Morse ('03), G. B. Forristall ('11), F. W. Wakefield ('87) and T. W. Fry ('85).

In Memory of Dr. Drown

A memorial tablet to the late Dr. Thomas M. Drown, who for about ten years previous to 1895 was the head of the chemical department, is about to be placed in the chemical library. The

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tablet is inscribed as follows: "In memory of THOMAS MESSINGER DROWN, M.D., LL.D., Professor of Chemistry at the Massachusetts Institute of Technology 1885–1895, Secretary from 1873–1883, and President in 1897 of the American Institute of Mining Engineers; Professor of Chemistry at Lafayette College 1874–1881; Chemist to the State Board of Health of Massachusetts 1886–1894; President of Lehigh University 1895–1904, this tablet has been erected in recognition of his services to science and education by his colleagues and friends."

Dr. Drown was well known and highly respected in metallurgical fields through his association with the Institute of Mining Engineers, and in sanitary chemistry through his pioneer work upon the examination of public water supplies in Massachusetts, and soon after his death in 1904 a fund was raised for the erection of a fine memorial hall at Lehigh University, now known as Drown Hall, which is devoted entirely to the social life of the students,—a feature of the University's affairs which was of particular interest to Dr. Drown as its president. Many New England friends contributed to this fund, and the tablet now placed in the Institute is intended to afford tangible evidence of the high esteem in which he was held by his students, colleagues and friends.

Growth of the Alumni Association

Since the first of the year nearly a thousand former students have been admitted to associate membership in the Alumni Association. The names will be published in the October REVIEW.

Any non-graduate member of any class that has been graduated is eligible to associate membership on election and the payment of two dollars as annual dues. Associate members receive the REVIEW without extra charge, and enjoy all the privileges of regular membership except the holding of certain offices. Application blanks may be had of Walter Humphreys, secretary of the Alumni Association, M. I. T., Boston.

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AMONG THE UNDERGRADUATES

Co-operation among Student Interests—Undergraduates publish a Book for Freshmen and Prospective Students

The year that has just closed has brought with it remarkable advances in every department of undergraduate life. The most important of these is the spirit of co-operation which has been developed, and which is most strikingly exemplified in the reorganization of the Institute Committee. A number of the undergraduate activities have practically agreed to have their books kept by the Institute Committe book-keeper in such a manner that monthly reports can be made to the Institute Committee. The Institute Committee will prepare these reports for publication in *The Tech* after they have been fully gone over with the head of each activity, and will make such recommendations as may seem advisable. The Institute Committee will audit the accounts of the various activities twice each year. All moneys remaining over at the end of the school year will be given by the activity making them to some Institute interest. This plan tends to remove personal gain and the possibility of personal loss. It also insures financial stability, and in connection with the point system will, to a large extent, prevent neglect of studies.

The large amount of news matter about the Institute has made it necessary to publish a daily *Tech*, and the management has made all preparations to bring out a daily publication at the beginning of the next school year. The yearly subscription will be $1.50. The price per issue will be one cent.

In athletics the Institute has made a very satisfactory record in a general way. At the Philadelphia meet the Tech defeated Wesleyan and Lafayette, against whom it was pitted in the mile relay. The time of 3 m. 31 2-5s. was 3 seconds behind the indoor record made

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by the team in February, but it was the fastest time of the meet except that made by the Chicago team. At the New England Intercollegiates in May, held at the Tech field in Brookline, Technology made a close race with Dartmouth for first place, the results being in doubt until the last event had been finished. At the annual spring track meet, W. D. Allen ('11) broke the Institute pole vault record by going over the bar at 11 ft. 4 1-2 in. The Advisory Council on athletics has approved of a season ticket to cost $3.00, which will be good for all home track meets, both indoor and outdoor, except the New England Intercollegiates. It will also be good for Field Day and basket ball and other athletic games at the Tech gym or athletic field, under the auspices of the Advisory Council. Holders of these tickets will be given preference in the distribution of reserved seats at the important meets of the year.

A committee of undergraduates, co-operating with the Institute Committee, is preparing to issue a book descriptive of the Massachusetts Institute of Technology, especially for the benefit of freshmen. The book will also be sent out to prospective students, in order that they may understand something of the spirit of Technology. The institution will be treated from the students' point of view. The book will fully describe the organization of the Institute Committee and its relation to student activities, the method of conducting the students' business office, and the athletic and social features of undergraduate life. It will also briefly describe the courses and the relation of the Alumni Association to the undergraduates. One object of the book is to show the new men that, although the Institute is a place where hard work is required, there are some very enjoyable social features.

The Institute Committee will next year post, in prominent places in the Union, calendars showing in advance all dates set for meetings, dinners, meets, rehearsals, etc. This will make it possible to arrange meetings without conflict and will guarantee better attendance, interest and enthusiasm.

A wireless club has been formed at the Institute, comprising thirty-five men. The object is to investigate and advance the science of radio-telegraphy and telephony, and to discourage need-

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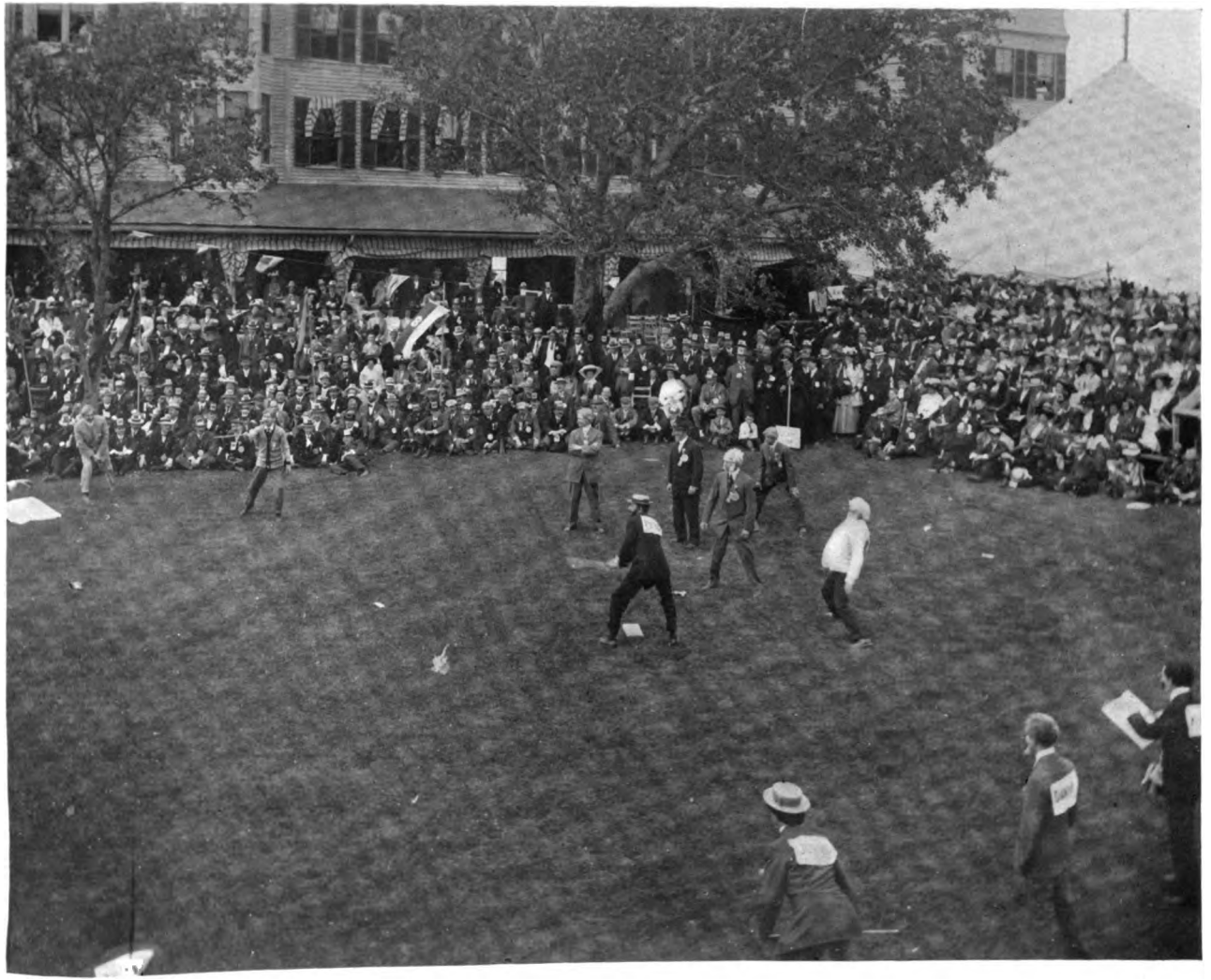

No. 2. Class of '02 in a Faculty Ball Game

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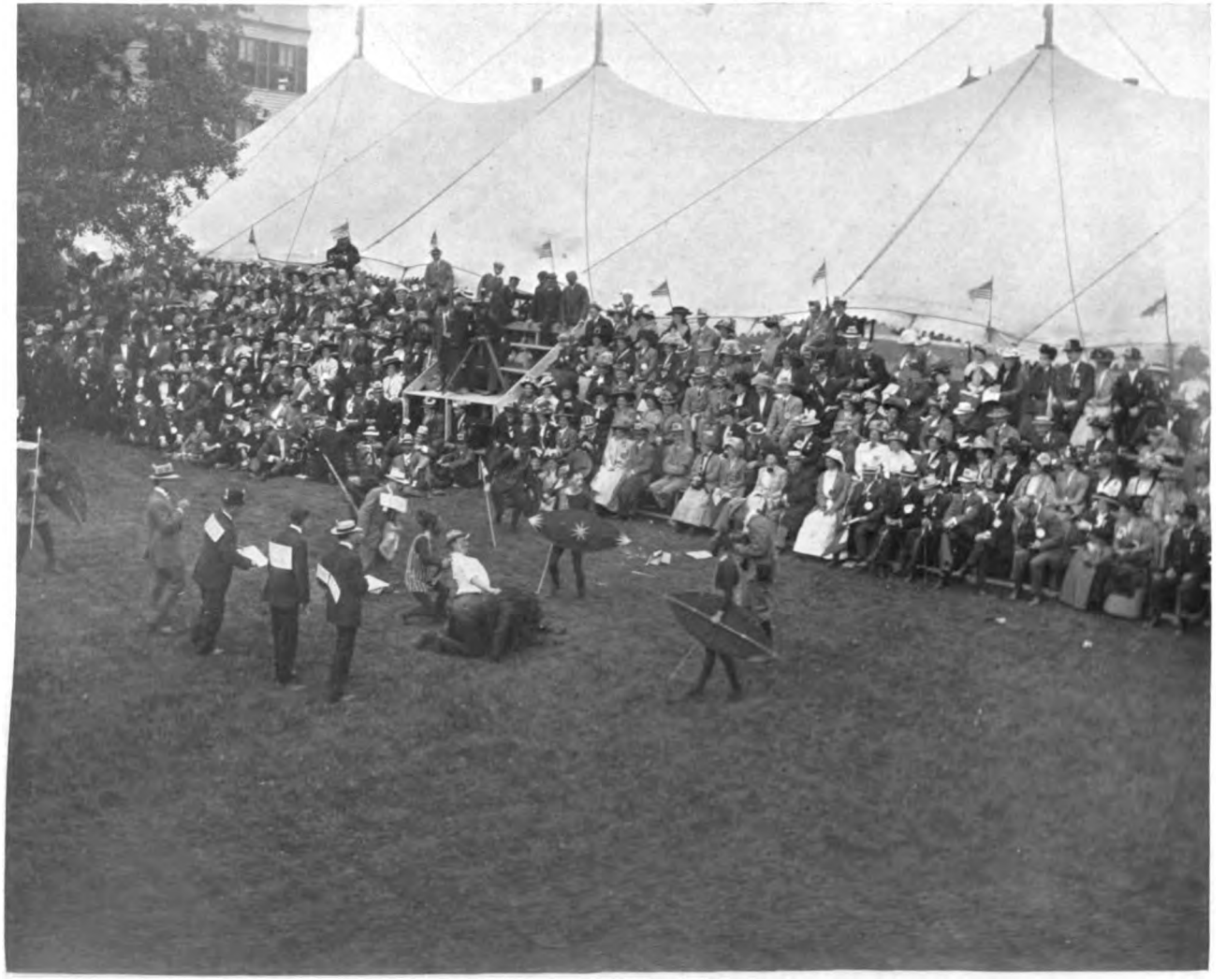

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less amateur interferance with government, private or commercial messages.

Junior Week this year was more brilliant than ever before. The most important feature, of course, was the Show, which was accorded universal praise. In some respects it was better and in others not quite as good as the Show of a year ago, but in general it was an advance and was greeted by large and brilliant audiences.

The 1910 *Technique* was very creditable, indeed, although not notably superior to many of its predecessors. The business management, however, was in competent hands and the book was made to pay for itself.

Testimonial to Mrs. King

As noted in the July number of THE TECHNOLOGY REVIEW last year, the founding of the Technology Union terminated the services of Mrs. Ellen A. King, who for eighteen years had conducted the Technology Lunch-room. To many who knew of her loyal service to the Institute and the value of her influence among the students throughout these years, it seemed fitting that the widespread appreciation of Mrs. King should find expression in a substantial testimonial.

Accordingly, a committee was organized, with Richard W. Lodge ('79) as chairman and Frederick H. Hunter ('02) as sceretary and treasurer. On March 1 a notice was circulated among the members of the classes '91–'08 inviting subscriptions. The response was prompt and hearty from a large number of men.

The committee in charge of this testimonial report that the subscriptions to May 15 number over four hundred, and amount above all expenses to over $1,400. The larger part of this has already been presented to Mrs. King. The committee deem it advisable not to close the subscription at present, but to keep it open until some time in the fall.

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ALUMNI ASSOCIATIONS

The New York Club has nearly a Thousand Members—Summer Plans in Washington and Philadelphia

THE TECHNOLOGY CLUB OF NEW YORK.—A new and splendidly equipped club-house in a convenient and attractive neighborhood, at 17 Gramercy Park, has been secured by the board of governors for the club, and is being loyally supported by the Tech men of New York.

The lease of our former inadequate club-house, 36 East 28th Street, expired May 1; and, as the plan for a joint club-house did not mature by the time expected, through the failure of the alumni clubs other than Technology to secure the necessary subscriptions, the board obtained an option on 17 Gramercy Park, and called a general meeting at the new house on April 24. The men present were delighted with the place, expressed themselves as unanimously in favor of increasing the dues, if deemed necessary by the board, and immediately started a subscription to defray any deficit in operation. With such promise of interest and approval and in the belief that all Tech men in New York, when they became acquainted with the new house, would gladly join the club and support the proposition, the board of governors on April 26 signed a lease in behalf of the club for a term of four years from May 1, and the club immediately moved into the new quarters.

The club-house was formally opened on the evening of May 7 by President Maclaurin and Mr. I. W. Litchfield. The house was filled, and there was such a crowd in the spacious rooms that Dr. Maclaurin, when introduced by President Binney, promptly mounted the piano stool to make himself seen and heard by all. He received an ovation, and in happily chosen words congratulated the club and the men present upon the opportunity for useful work for the Institute and for pleasant social intercourse afforded by the

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acquisition of the new club-house. The secretary then stated the need for support from all Tech men in joining the club, securing permanent and transient rooms in the house, and using the dining-rooms for luncheons, dinners, and class and society meetings. Mr. R. S. Allyn ('98), who had that evening presented applications for membership from ten members of his class, then urged that all men present not only become members of the club, but also join in the subscription to defray any deficit in the operation of the new house. A recess was taken, and, after the subscription list was passed around, the subscriptions, ranging from $10 to $100, aggregated about $3,000, and sixty-five men signed application cards for membership. The men then joined in singing Mr. Litchfield's song, "Take me back on a special train to the Glorious Institute," after which Mr. Litchfield, from a table top, gave us a stirring and interesting account of the programme for the Second All-Technology Reunion, and was assured by the enthusiastic applause that the men of New York would be on hand to add to the jollity and success of the reunion.

The new club-house, facing Gramercy Park in the vicinity of Columbia University, Princeton, Players, National Arts, and other clubs, affords facilities which until now have seemed beyond our reach. The first floor has the office, coat-room, reception-room, and three dining-rooms; the second floor, a library, billiard, writing, and card rooms; and the third and fourth floors are provided with sleeping apartments for twenty men. The house is modern, attractive, lighted with electricity, splendidly furnished, and is an altogether delightful place. About one hundred men have joined the club within a month, and we are on the way to one thousand members.

On the evening of June 3 another enthusiastic meeting was held, this time a smoker and jollification meeting, at which officers of our neighboring clubs were present, and gave us a cordial welcome to the Gramercy Park club colony. Mayor McClellan was unexpectedly prevented from coming, and sent his greetings and good wishes. The address of the evening was by Hon. William H. Black, former Commissioner of Accounts of New York City, on the subject,

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"For New York," and received continuous applause. An enjoyable programme of guitar, mandolin, and singing was arranged by Mr. Joyce, chairman of the entertainment committee, and final plans for the reunion were made.

A large delegation was present in Boston, the procession beginning Friday, June 5, and continuing up to Sunday night, June 6. At the reunion an announcement respecting the new club-house, containing a photograph of the building and printed in Technology colors, was distributed, and a number of applications for non-resident membership have since been received. Certainly, no Tech man coming to New York should miss the comforts and companionship afforded by the club.

A very successful reception and dance was given by the entertainment committee at the Waldorf-Astoria on the evening of April 16, at which Dr. and Mrs. Maclaurin honored us with their presence. Mrs. Binney, Mrs. Large, Mrs. Spofford, and Mrs. King received. Next year our reception, dance, and ladies' night, as well as smokers, billiard tournaments, and scientific addresses, will be given in our new home.

An invitation has been extended to the Class of '09 to attend a smoker in its honor on the evening of September 25.—*William H. King ('94), Secretary, 17 Gramercy Park, New York City.*

WASHINGTON SOCIETY OF THE M. I. T.—A new plan in connection with the regular monthly meetings of the society has been tried and found highly satisfactory, supplemented as it is by the weekly Technology lunch at a centrally located *Rathskeller.* Instead of having merely a social evening once a month, as in years past, a date is selected when one of the other engineering or scientific societies has an interesting lecturer scheduled, and after dining together at the University Club the men go in a body to the lecture, usually at the invitation of the other society. The abandonment of the social evening is not regretted, as the noonday lunch once a week more than takes its place. For the summer months a series of excursions down the Potomac is being arranged.

The society hopes to publish in the fall a booklet in commemora-

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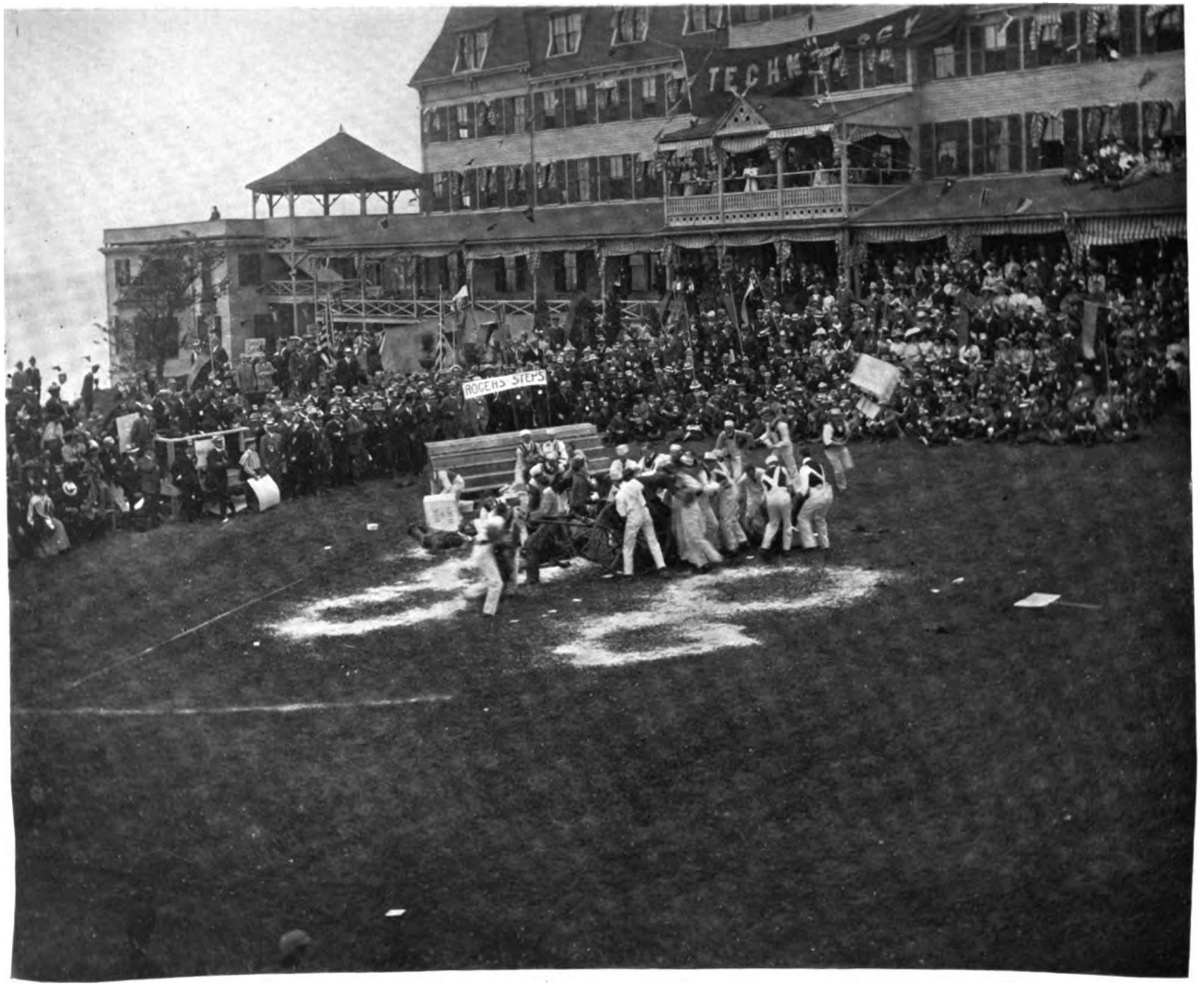

No. 8. Stunt of '07.—The Tech-Police Riot

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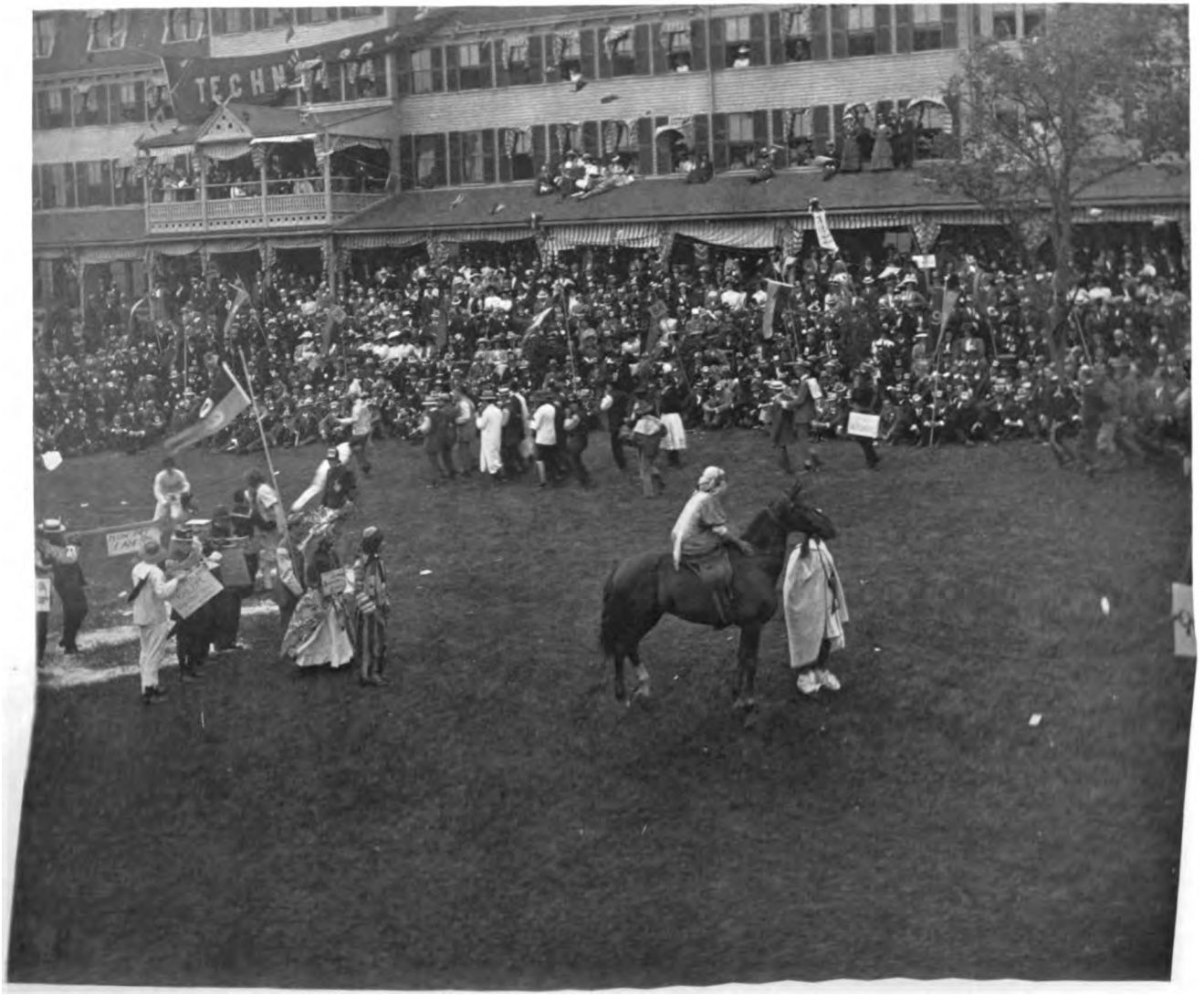

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tion of its tenth year of existence, in the usual form, containing the constitution and by-laws, list of members and brief historical sketch. There are about two hundred and twenty-five names on the list of Technology men in Washington, Baltimore, Annapolis and the adjacent territory, one hundred and fifty of whom are more or less active in the society.—*A. M. Holcombe, Secretary,* 1404 Massachusetts Ave., N.W., Washington, D.C.

TECHNOLOGY CLUB OF PHILADELPHIA.—On Saturday evening, April 10, an old-fashioned southern dinner was given at the Southern Club. The dinner was excellent, and there was a good number present to enjoy it. Mr. F. A. Hunnewell ('97), chief draughtsman of the United States Naval Constructor's office at the New York Shipbuilding Company, presented a very interesting paper on "A Trial Trip of a Battleship." He described in detail the various tests to which a warship is subjected, and brought out many very interesting points.

The second annual field day was held at the Woodbury Country Club on May 29. There was an attendance of almost fifty members and ladies, and every one had a royal good time.

During the afternoon there was a remarkable series of athletic events. A "Yanigan" baseball team defeated a team representing 1906 in a thrilling five-inning game with a score of 10—5. All league managers desiring exceptional players are referred to the following list: "Yanigans": Wiggin ('04), P., Keisker ('97), C., Bartlett ('04), 1st B., Blakeman ('05), 2d B., Pierce ('99), 3d B., White ('01), S.S., Bean ('99), L.F., Hunnewell ('97), C.F., Foljambe ('01), R.F. 1906: Terrell ('06), P., White ('06), C., McGowan ('08), 1st B., McGinnis ('06), 2d B., Walsh ('06), 3d B., Emerson ('06), S.S., Dean ('06), L.F., Tillson ('06), C.F., Taylor ('06), R.F., Walker ('05), Umpire.

The "Yanigans" were defeated in a fast (no time taken) relay race by 1906. The teams were: 1906, Emerson, White, Taylor, and Walsh; "Yanigans," Pierce ('99), Bartlett ('04), Foljambe ('01), and Wiggin ('04). The other events were a sack race, a three-legged race, and potato races for both the members and ladies. The club records were broken in every event.

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Supper was served by the Woodbury ladies, and the evening was spent in dancing and in singing Tech songs. *Percy C. Tillson, Secretary, 419 Y. M. C. A. Building, Philadelphia.*

TECHNOLOGY CLUB OF HARTFORD.—The Technology Club of Hartford held its annual meeting and dinner at the Hartford Club, Saturday evening, March 27. Officers were elected for the ensuing year as follows: president, Charles R. Nason; vice-president, Karl E. Peiler; secretary-treasurer, George W. Baker; board of governors, Charles R. Nason, Karl E. Peiler, George W. Baker, Edmond P. March and Clarence E. Whitney.

There were present as guests of the club Joseph Sachs, president of the Sachs Manufacturing Company, and Harry A. Rapelye, assistant to the President of the Massachusetts Institute of Technology.

Mr. Rapelye gave an interesting talk on "The Past Year at Tech," and Mr. Sachs explained to the club "How Patents are obtained and the Protection they give Inventors and Manufacturers." Mr. Nason expressed his pleasure at the growth of the club, which numbers fifty, and the instructive and beneficial work accomplished during the past year.—*George W. Baker, Secretary.*

TECHNOLOGY CLUB OF NEW BEDFORD.—The reunion received a good boost from the Technology Club of New Bedford when Mr. I. W. Litchfield came down from Boston and told us about the plans for the great event. Fifteen members gathered at the Wamsutta Club, and listened to Mr. Litchfield and enjoyed a light lunch.—*Charles F. Wing, Jr., Secretary.*

TECHNOLOGY CLUB.—At the annual meeting of the club held on May 11 the following officers for the ensuing year were elected: president, William Lyman Underwood; vice-president, Seth K. Humphrey; secretary, Robert S. Williams; treasurer, Augustus H. Gill; councillors to serve three years, Arthur T. Bradlee ('88), Andrew D. Fuller ('95), Walter E. Piper ('94), Howard L. Coburn ('97), William E. Mott ('89). Immediately following the business meeting Major Bigelow entertained the members with an interesting account of his army experiences.

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The club was much used during Reunion week, and made a convenient meeting-place not only for club members, but for visiting alumni.—*R. S. Williams, Secretary.*

Undergraduates Working for the Institute

Many alumni of the Institute have heard about the book which is being published by a committee of undergraduates in co-operation with the Institute Committee, which is intended not only to put freshmen in touch with the routine of Technology, student institutions, and the ideals of Alma Mater, but which will also be circulated among preparatory schools in order that prospective students may know that the hard work that is required at the Institute is well worth while in connection with the delightful social life which is springing up and the opportunities for cultural and physical development which the Institute offers in a greater degree than any other scientific school. The book is interesting to all alumni because of the information it gives and the fact that it was conceived and published entirely by students because of their love for the Institute.

The book has gone to press, and will be published the latter part of August. Many of the alumni have taken advertising space in the volume, and the publishers are receiving letters from interested friends inquiring about the price. The publishers will be glad to send a copy of this book, free of charge, to any prospective student who, in the opinion of an alumnus, is the type of man we would like to have here at the Institute. Alumni who desire copies of the book for their own use can have them upon payment of one dollar. The committee would like to sell about 150 on this basis, in order that they may be able to complete payment on publication. The book will cost about $1,000.

Please send all communications to President of the Institute Committee, care of the Massachusetts Institute of Technology.

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NEWS FROM THE DEPARTMENTS

Professor Sedgwick's Trip in the Interest of Public Health — Prof. Tyler on Committee of International Mathematical Congress

DEPARTMENT OF BIOLOGY.—Professor Sedgwick made, in April, a western trip of considerable range and interest. Beginning in Pittsburg, where he attended a meeting of the Pittsburg Typhoid Fever Commission, of which he is a member, he proceeded to Indianapolis for the sake of a visit to the interesting filters of the Indianapolis Water Company and the laboratories of the State Board of Health. From Indianapolis he went to Lafayette, Ind., the seat of Purdue University, the largest technical school in the Middle West. Here Professor Severance Burrage (VII., '92) was found to be one of the most respected and influential of the faculty, which includes several other Institute men. At a convocation Professor Sedgwick addressed the entire student body, and at an evening gathering the members of the instructing staff.

His principal stay, however, was at the University of Illinois, where he remained for a week, and gave six lectures on "Science in the Service of the Public Health." Of these a syllabus was printed and widely distributed. Professor Sedgwick also spoke, while at Urbana, before the local section of the American Chemical Society, on sulphur in illuminating gas, and, before a joint meeting of the State Board of Health and the State Water Survey, on the duties of officers of boards of health in small towns and cities.

At Beloit, Wis., he addressed the student body and the faculty, and was the guest of Professor E. G. Smith, formerly a graduate student in the Biological Department, M. I. T.

From Beloit he went to the University of Wisconsin at Madison, where he gave a single address on the value of pure water. He

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was obliged, from want of time, to decline several invitations to speak at other institutions.

Professor Sedgwick has recently been appointed a member of a commission, popularly known as "the Garbage Commission," to advise the mayor of Boston concerning the advantages and disadvantages of a contract tendered by the Metropolitan Refuse Disposal Company for collecting, removing and disposing of all the garbage, ashes and combustible wastes of the city. The sum involved is more than $7,000,000.

Professor Prescott acted as chairman of the newly formed section on Biological Chemistry of the American Chemical Society at the recent Detroit meeting.

He has recently been appointed milk inspector for the town of Belmont, and has been elected as chairman of the Committee on Commercial Training of the Board of Trustees of Sanborn Seminary, Kingston, N.H.

Professor Winslow has been granted leave of absence for the months of January–March, 1910, to accept an appointment as Assistant Professor of Bacteriology at the University of Chicago for the winter term. He takes the place of Professor E. O. Jordan, M. I. T. '90, who will be away in Europe.

Professor Winslow lectured before the New England Association of Collegiate Alumnæ, April 10, on the Metropolitan Water Supply.

"An Extensive Investigation of the Sanitary Significance of Bacteria in Sewer Air," by Professor Winslow, has recently been printed by the National Association of Master Plumbers.

The United States Geological Survey has published, during the spring, two important papers by Professor Phelps. Bulletin No. 226 is on "The Pollution of Streams by Sulphite Pulp Waste," and No. 229 on "The Disinfection of Sewage and Sewage Filter Effluents."

Professor Phelps and Mr. Charles E. North, for three years director of the Department of Bacteriology of the Lederle Laboratories, have associated themselves as consulting sanitary experts, with an office at 30 Church Street, New York city, and with laboratories near by. They will give their attention to all matters of

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sanitation and preventive medicine, and especially to the improvement of water and milk supplies, methods of sewage disposal, and the control of epidemics, working in co-operation with other engineers rather than attempting anything in the way of engineering designs and estimates themselves. Professor Phelps will continue his connection with the Institute as Research Professor of Chemical Biology and Chemist and Bacteriologist of the Sanitary Research Laboratory, spending two days a week in New York.

DEPARTMENT OF MATHEMATICS.—Professors Woods and Bartlett and Dr. Phillips have gone abroad, Professor Bartlett and Dr. Phillips for the summer vacation, Professor Woods for a year's leave of absence, which he will spend in mathematical work in Germany and in Paris.

Dr. N. J. Lennes has been appointed Instructor for the year, and Dr. C. L. E. Moore becomes Assistant Professor.

At the International Mathematical Congress at Rome in April, 1908, steps were taken to organize an International Commission on the Teaching of Mathematics, and the work has been actively taken up in the United States by a commission consisting of Professors Smith of Columbia, Osgood of Harvard, and Young of Chicago. Professor Tyler has accepted the chairmanship of the National Committee on the Teaching of Mathematics in Technological Colleges and Departments. It is hoped that the work of these committees, when correlated with that of other countries, will prove of much value and importance. Reports are expected to be presented at the International Mathematical Congress in Cambridge, England, in 1912.

Frank M. Kanaly, who has been athletic coach at the Institute for the past few years and who has had a great deal of success with the track team of the Institute, has been appointed to the dual berth of physical director and athletic coach, his term to begin next fall, when Technology opens. He will have charge of the gymnasium work as well as of all the track teams.

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NECROLOGY

Edward H. Barnard

Edward H. Barnard, '76, one of the best-known American landscape painters, died April 16 in the McLean Hospital, Waverley, Mass., after a brief illness of heart trouble. He was fifty-three years old. Mr. Barnard received his early education in private schools, and then entered the Massachusetts Institute of Technology, where he took a special course in architecture, intending to make that his profession. He had a love for art, and finally became a student in the original class at the Boston Art Museum. He then went to Paris, where he studied for three years, part of that time as a pupil of Julian. Each year of his stay abroad he exhibited a picture in the Salon, and during the American Exposition he won renown with a picture entitled "The Tapestry Girl." Returning to America, Mr. Barnard opened a studio in Boston, but several years ago went to Belmont, where he lived with his sister, Mrs. Mary B. Horne.

Professor John M. Ordway

Professor John Morse Ordway, one of the oldest members of the faculty of Tulane University, New Orleans, died July 3, at his summer home in Saugus, aged eighty-two.

He was born in Amesbury, was graduated from Dartmouth in 1844, and has been a recognized authority in chemistry for half a century. From 1869 to 1884 he was a professor in biology, and industrial chemistry in the Massachusetts Institute of Technology, and during part of the same time an instructor in Boston University.

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As a young man, he worked in a drug store in Lowell, and before he took up teaching was chemist and manager of the Roxbury Color and Chemical Company, the Dry Brook Chemical Works of Johnston, R.I., the Manchester (N.H) Print Works and the Bay Side Alkali Works, Boston.

He is most widely known through his scientific articles in magazines and his connection with scientific societies. He leaves a widow (Miss Evelyn M. Walton, '81) and two daughters, Mrs. A. C. Kastler, of New Orleans, and the wife of Rev. Edward S. Tead, of Somerville.

Henry Furlong Baldwin

Henry F. Baldwin, member of the American Society of Civil Engineers, chief engineer of the Oregon & Washington Railroad, died suddenly of apoplexy at his home in Seattle, Wash., in June. Mr. Baldwin was born at Waterbury, Md., in 1862, and was a graduate of the Massachusetts Institute of Technology in the Class of 1884. Soon after graduating he entered the service of the Louisville & Nashville Railroad as a rodman, and he remained with that road until 1889, at which time he had been advanced to the position of roadmaster. From 1889 to 1890 he was a division roadmaster for the New York, Lake Erie & Western Railroad, and in the latter year he became chief engineer of the Chicago & Eastern Illinois Railroad. He relinquished this position in May, 1894, when he became chief engineer of the Chicago, Peoria & St. Louis Railway. He was subsequently engineer of maintenance of way of the Erie Railroad at Jersey City, N.J., from 1895 to 1900, and chief engineer of the Chicago & Alton Railway from 1900 to 1904. In January, 1904, he gave up railway work to become vice-president and general manager of the Du Pont Powder Company, whose president, T. Coleman du Pont, had been a classmate of his at the Massachusetts Institute of Technology. He resigned the vice-presidency of the Du Pont Company in 1907 to return to railway work.

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Professor Theodore Minot Clark

Theodore Minot Clark, one of the leading architects in the country, died at his home, April 30, after a brief illness, at the age of sixty-three years. Mr. Clark was in charge of the Department of Architecture at the Massachusetts Institute of Technology from 1881 to 1888, and was one of the architects who designed Trinity Church.

At one time Mr. Clark was editor of the *American Architect*. He was a member of the London Society of Arts, a fellow of the American Institute of Architects and a member of the International Institute of Public Art of Brussels. Among the books which he has written are "Rural School Architecture," "Building Superintendence," which has been widely used, "En Voyage," "The Owner and Builder before the Law" and "The Care of the House."

Scharff succeeds Rapelye

Maurice Roos Scharff ('09), of Natchez, Miss., has been appointed by the Corporation to be assistant to President Maclaurin, succeeding Harry A. Rapelye ('08), who has gone into business. Scharff is but twenty-one.

He prepared at Exeter. He is a member of Osiris, the senior honorary society. He has been a member of the Civil Engineering Society, the Biological Society, K_2S, Southern Club, Walker Club, Round Table, Technology Club, Mandolin and Banjo Clubs, Institute Committee, *Technique* Electoral Committee, Class Tug-of-war Team, Athletic Association, Class Day Committee, Track Team, was an editor of *Tech*, and business manager of *Technique*, 1909.

He was first marshal of his class, and delivered the class oration. Finally, he won a great deal of prominence by framing the much-discussed point system for limiting the holding of student offices.

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TECH MEN IN THE PUBLIC EYE

THEODORE W. ROBINSON ('84), was recently elected president of the Commercial Club of Chicago, which is the representative business men's organization of that city. Mr. Robinson is first vice-president and general manager of the Illinois Steel Company, with which, or its constituent companies, he has been connected since 1885. He is a member of the Board of Education of the city of Chicago, and has been identified with other civic interests. He is a member of the American Institute of Mining Engineers and the Iron and Steel Institute of England. He is a past president of the North-western Association of the Massachusetts Institute of Technology.

President Eliot, of Harvard, is the third recipient, in this vicinity, of the Japanese Order of the Rising Sun. The other two are Charles M. Baker ('78), and Lieutenant Commander Goro Tomonaga, ('09) who served in the Russo-Japanese War, and who is now a special student at Technology. Lieutenant Commander Tomonaga also received the Order of the Golden Kite for bravery in the battle of the sea of Japan, the greatest naval struggle since Trafalgar.

HARRISON NESBIT ('98), recently a national bank examiner in the Pittsburg district, has been made first vice-president of the Bank of Pittsburg.

DANIEL C. FRENCH ('71), the noted sculptor, was born in Exeter, N.H., in 1850. He took a special course at the Institute of Technology in the class of '71, and, after studying art in Boston, continued his studies for several years in Florence, Italy. On his return to this country he first opened a studio in Washington and then in Boston, and in 1887 he removed to New York, where he has since resided. In 1906 he was made president of the National Sculpture Society. Some of the best-known works of Mr. French are: a statue of General Cass, in the Capitol at Washington; "The

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Minute Man of Concord," at Concord, Mass.; a statue of Senator Hoar, at Worcester, Mass.; a statue of Rufus Choate, in Boston; the colossal "Statue of the Republic," at the World's Columbian Exposition; and the groups of "Europe," "Asia," "Africa" and "America" on the new customs house in New York.

HENRY S. ADAMS ('87), has been selected as one of the two engineers who will pass on the report of the Advisory Commission on Docks and Meadow Reclamation of Newark, N.J. Mr. Adams was city engineer of Cambridge, Mass., for seven years, during which time he was connected with the development of the Charles River. For two years he was assistant engineer of Middlesex County, Massachusetts, from which time he has been in private practice. He has made plans and superintended the erection of docks, wharves and bulkheads, filled flats and designed and improved harbors. Mr. Adams had charge of the engineering work of the development of the harbor of Ponce, Porto Rico, and of the making of the surveys and designs for the harbors of Nome, Alaska, and Boca del Toro, in Central America. He designed harbors in Buzzard's Bay, Vineyard Sound and at Lynn, Mass.

HOWARD A. CARSON ('69), has recently tendered his resignation as chief engineer of the Boston Transit Commission, which office he has held since 1884. Mr. Carson was born in Westfield, Mass., in 1842, and was graduated from the Institute in 1869. In 1906 he received the degree of Master of Arts from Harvard. After leaving Technology he became assistant engineer of the Providence Water Works, and later was placed in charge of the sewer construction of that city. He was principal superintendent in charge of the construction of the main branch system in Boston in 1878, and later he resigned as chief engineer of the North Metropolitan and Charles River Valley Sewerage System, which combined service for some twenty cities and towns, with numerous syphons under tidal estuaries and an outlet 1,800 feet into the sea from Deer Island. Mr. Carson personally engineered the construction of the Tremont Street subway and of the East Boston tunnel and the Washington Street tunnel. He resigned from the Transit Commission in order that he might take a rest and give some time to

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special study. He will act as consulting engineer of the Commission. Mr. Carson is a member of the Corporation of the Massachusetts Institute of Technology, a member of the Institute of Civil Engineers in London, the American Society of Civil Engineers and the Boston Society of Civil Engineers.

GELETT BURGESS ('87), has lived in many places and done many things, says the Springfield (Mass.) *Union*. He was born in Boston, was educated in the Boston public schools and was graduated from the Massachusetts Institute of Technology with the degree of B.S. in the department of civil engineering. After college he went into the engineering department of the Southern Pacific Company in the field and in the main office at San Francisco. After three years of that sort of hing he took a year off for a walking trip through France and Spain, and on his return became instructor in topographical drawing at the University of California. Then he went into furniture designing in San Francisco, and on the side edited that magazine of rare delight, *The Lark*, in which "The Purple Cow" made its first appearance. Since *The Lark's* untimely end he has devoted himself to the production of serious and nonsensical literature for magazines and books. His versatility is as evident in the things he has written as in the things he has done. Poetry, children's stories, books of delicious foolishness, essays as clever as "Are You a Bromide?" romances of piquant adventure like "Vivette" and "The Reign of Queen Isyl," have all flowed gracefully from his pen. In his latest book, "The White Cat," he has entered the field of the psychological romance and made a story far out of the ordinary.

LUTHER CONANT, Jr. ('95), who has been special examiner in the United States Bureau of Corporations at Washington, has recently been named deputy commissioner of corporations, to succeed E. Dana Durand, who has been appointed director of the Census. Mr. Conant has been special examiner of the Bureau of Corporations for about five years. He also took an active part in the Standard Oil examinations. Prior to entering government service he was financial editor of the New York *Journal of Commerce*.

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MISCELLANEOUS CLIPPINGS

Today, in the presence of alumni gathered from near and far and of eminent educators, delegates from sister institutions, the Massachusetts Institute of Technology inaugurates a new president and opens a new and important chapter in its history. And this not only because a new, forceful personality takes the helm, but also because of obvious, necessary changes in the ongoings and workings of the school, which new conditions impose and of which today's inaugural will tell, some of these conditions arising from local environment, others from trends in the larger field of education, where, among technical and scientific schools, "The Tech" has played so important and exemplary a part. Even as its students have been drawn to it from other continents, so its graduates have gone abroad, directing that process of conquest of nature by applied science which is transforming and enriching the world. Measured in terms of increment of wealth to this and to other countries' resources, "The Tech" has been an investment in capital and life labor which has paid enormous dividends to society. So also has been its share in amelioration of life and conservation of health and happiness through its application of science to invention, industrial expansion, sanitation and domestic economics and by its instruction in architecture. Nor is this all. With its sister schools of technology and of applied science—none of which in this country date back farther than 1824—it has trained men in "intellectual honesty, in power, in discrimination in all things concrete and objective, . . . in ability to concentrate attention, and to pursue investigation unfalteringly and relentlessly to exact results." The moral and spiritual value of this type of investigation and achievement, in its reflex influence on the more traditional and cultural schools of learning and on popular notions of the sort of education that is worth while, has been marked.

The Institute of Technology, from the days of W. B. Rogers to the present hour, has had as its working ideal education for service, based on knowledge of realities and derived from practice of the laboratory method, and a maximum of contact between the teacher and the taught. It has been conservative in granting liberty of choice to students, once a given end was decided upon, and it has insisted that athletics and "society" were

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subordinate, incidental ends. These ideals, lived up to, have made it a resort for workers, not shirkers, and a source of supply for men who usually win competencies and fame. The immediate problems of "The Tech" are physical and pedagogical,—how to secure the new environment for its ongoing and expanding life, how to utilize to the full its vivified alumni interest, and how to relate its resources of knowledge and expert guidance not only so as to serve its student body, but the community and the Commonwealth, to which it owes social service, such as German universities, or our own State universities, notably Wisconsin, render. Bishop Lawrence, in his baccalaureate sermon yesterday, stressed this important duty. —*Boston Herald, June 7, 1909.*

This is the greatest week in the history of the Massachusetts Institute of Technology, and this day is in some respects its largest. Every returning Tech man must be an optimist as regards his Alma Mater. The past is secure, and the outlook is rich in promise. An interregnum is a critical period for any institution of higher education, but in this case it has been ably covered by Acting President Noyes, and expectations of the new executive are large. The confidence in President Maclaurin is strengthened by his inaugural. It takes nothing for granted beyond the immediate horizon. It makes few promises, but it outlines in clear and strong characters high and comprehensive standards and ideals.

His creed is practical and inclusive. It shows little sympathy with one-idea methods. "We must have due regard to professional skill, but especially in such an institute as this must we avoid the danger of supposing that we have to think only of a man's professional equipment," is a central article of his faith. Unless a young man is fitted to enter into the larger life of his generation and environment, whatever his professional excellence, he is "an ill-educated man." He believes that science should play a prominent, if not a leading, part in a large and increasing section of the community, and for this purpose schools of applied science are strategic points of the highest value.

It is perhaps something of a new idea that the studies called cultural, that "conduce rather to a sane view of life than to professional skill," should come toward the end of a young man's student life rather than at the beginning of it, since then he will be in a position to appreciate their real value and import. But he has a creed for the outside as well as the inside of the class-room. It is to cultivate "a rational system of athletics and rational social life." He will have little difficulty in putting this into prac-

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tice. The spirit of the institution was never more favorable to the development of the best institutional life on broad and wholesome lines than it has been this year. It has made an unusually creditable record in all-round athletics, which have apparently detracted to no appreciable extent from technical excellence.

Dr. Maclaurin comes to the Institute under happy auspices. There has been an awakening of interest in its welfare more far-reaching than has ever before been witnessed. The All-Tech reunion means much for the immediate future of the institution. There is nothing else that does so much to develop enthusiasm as a revival of associations and interests once keen that have been dimmed by absence. The new President will find himself associated with an able and earnest corps of instructors, ready to adopt progressive suggestions and quick to co-operate in a policy that promises new vigor and enlargement; while behind him is a splendid body of alumni, that is manifesting a loyalty to the institution that has prepared them for their life-work perhaps never before so widely experienced or expressed. The last decade, as a distinguished alumnus recently showed, was one of almost transforming progress for Tech, but its friends believe that the next one will be yet more brilliantly fruitful.—*Boston Transcript, June 7, 1909.*

Dr. Maclaurin finds the Massachusetts Institute of Technology, of which he formally became President yesterday, well prepared in spirit to reach the standards and strive for the ideals which he touched on in his clear and comprehensive inaugural address. We do not refer alone to the spirit shown so enthusiastically at yesterday's inaugural ceremony, stirring as it was, and impressive. We refer to the spirit that has enabled the Institute, working with rather limited resources, to achieve such high distinction in the scientific world.

Dr. Maclaurin believes not only in the value of an excellent professional equipment, but also in the inestimable worth of personal power,—of breadth of view and strength of character. So he believes that Technology should give its students an opportunity to cultivate all-round force in a rational manner. This is the attractive gospel of the higher education of today. It has been eloquently and convincingly set forth lately by Harvard's new President, Dr. Lowell. President Maclaurin shows that he feels breadth of development is especially to be sought in such an institution as Technology.

But the principal point of all is that Technology has now begun a new

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and very promising chapter in its splendid history. Much as it has done, much more is still expected of it. In Dr. Maclaurin the Institute has a new leader remarkably well qualified to accomplish great results. He has youth, a brilliant record as scholar and teacher, and a wide experience gathered in different parts of the world in his favor. He has also another favorable factor behind him; namely, the Corporation, Faculty, alumni, and student body of Technology. Ex-President Pritchett spoke feelingly on this point yesterday.

June 7, 1909, was indeed a red-letter day in Technology's history, and not only for its display of harmonious, invincible enthusiasm, but for its show of allegiance to the broad principles laid down by its noble-minded founder, William Barton Rogers.—*Boston Journal, June* 8, 1909.

A function such as was carried through yesterday in Symphony Hall illustrates a superb spirit of fraternity, of obliviousness to sectional, sectarian, sex, and other divisive issues that often serve to keep men apart. Moreover, such an event enlists the attendance of the community's best people. None of these features was wanting at President Maclaurin's inauguration, and they were supplemented by other features. The Commonwealth of Massachusetts gave its official greeting through the lips of an alumnus of the Institute, Governor Draper; and James Bryce, as a spokesman for Great Britain and for British scholars, lent the favor of his benediction and wise comment to the occasion. Mention should be made of the spontaneous applause given to President Lowell at the close of his whole-souled praise of the Institute and his expression of intention to maintain permanently his hereditary and personal interest in its welfare.

The impression which the Institute's new leader gives is of a thinker able to utter himself in sprightly as well as weighty words, with occasional flashes of wit and touches of humor, and a range of allusion to literature and biography which proclaims the humanist as well as the scientist. Lest performance should not equal pledge, he for a time forbears disclosure of specific policies, contenting himself with the general statement that there never will be advocacy by him of radical departures from the ideals or methods already established.

Thus his inaugural is more autobiographical and personal in quality than it otherwise might have been, and shows where the youth has emerged whose career in English, Scotch and German universities and as an educational administrator in New Zealand and as a professor in Columbia University has given him a range of experience that has been unusually

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varied, as well as won for him high standing in the scholastic world as a mathematician and phsyicist, as a student of law under Maitland, and as an investigator of systems of education.

Reduced to simplest terms, President Maclaurin's creed is that education exists to develop truth-seeking, fact-revering, efficient men, which education more and more rests back on science, and must adjust itself to the transformation in society which science already has wrought and still is to work. But with reliance on science and its methods of comparison and induction there also must go an ideal of culture, of capacity to stand apart and criticise and appraise life and the relative worths of facts which science reveals; and all broad, liberal education will provide for studies like literature, history, economics, and the fine arts, which have proved themselves as serving this purpose.

Nor are such or other cultural studies enough. The teaching staff must include men of personality, who incarnate ideals, and the life of the institution must make provision for rational athletics and rational social life. This creed fits fairly well with the working policy of the Institute from its beginning, but it bespeaks an emphasis on the humanities which occasionally has been lost sight of, and it aligns the new president with those who are to be reconcilers of ideals in education that too often have been supposed to be irreconcilable.—*Boston Herald, June* 8, 1909.

Beyond the fact that the Massachusetts Institute of Technology has definitely decided to begin a movement to secure a new site and new buildings, little precise information has been vouchsafed as to the plans of the leading technical school of the country.

The Institute wishes to secure a site within the city limits of Boston. A tract of thirty or forty acres is absolutely demanded, if the school is to make its plans for more than the immediate present. So far five sites which are within the city limits and which conform to the requirements of the school are known, and it is figured that a tract of thirty to forty acres would allow for at least fifty years' growth.

It is estimated that in round figures $5,000,000 is required to give the Institute the physical equipment in lands and buildings that it must have. The statement is made that the pressure for room is already so keen that present quarters will hardly suffice until new buildings are secured, and it is believed that nearly five years would be required to get the new plant in operation, even if work started at once.

Already $150,000 has been subscribed for a new site, this money coming

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exclusively from Technology graduates. In addition there is now on deposit about $125,000 which was contributed by alumni some seven years ago for a memorial building to President Walker.

Leading alumni of Technology realize that it will be impossible for the graduates alone to raise the $5,000,000 needed for the new plant. Of the 4,000 graduates of the Institute, fully 50 per cent. have gone out since 1898, and 75 per cent. of the alumni have been graduated inside of thirteen years. —*Boston News Bureau, June* 14, 1909.

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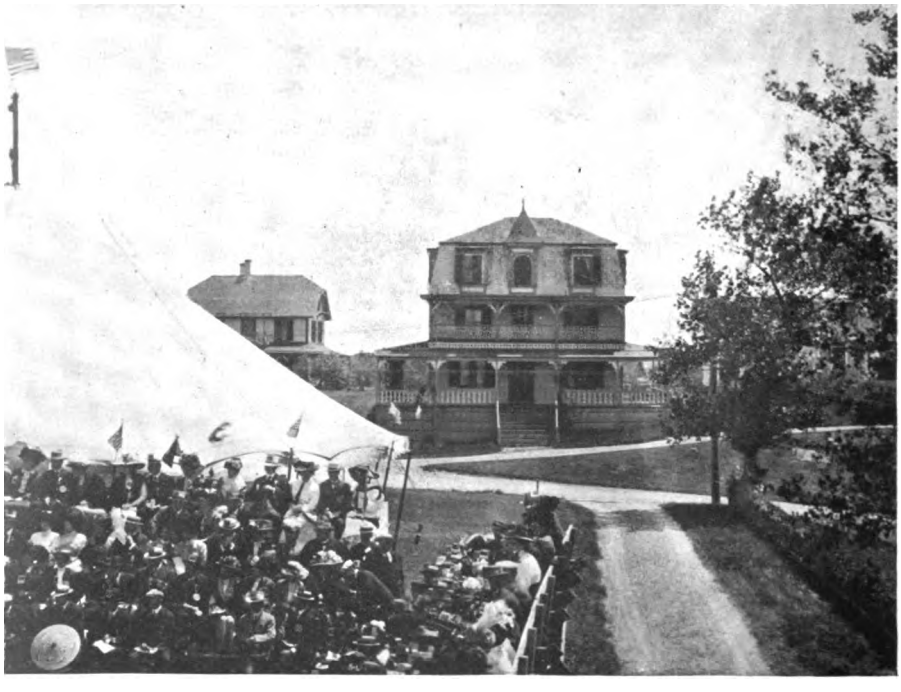

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NEWS FROM THE CLASSES

1868 and 1869.

PROF. ROBERT H. RICHARDS, *Sec.*, Mass. Inst. of Tech., Boston.

At the reunion William Jackson did the class marshal act by proxy very gracefully. Long life to him!—James P. Tolman, formerly doubtful, is now fully converted to the reunion. He is the best fellow that ever lived. Eli Forbes is same old charming self. His health not being robust, he was present only at part of the reunion.—Ernest W. Bowditch gave a most delightful afternoon to '68 and '69 at his residence, Eastover, Milton. The flowers were at their best, and all hearts gay while recalling the good old times.—Robert H. Richards in the ball game showed a sad lack of training. For the Nantasket stunt he seemed a little better prepared.—Charles B. Fillebrown charmed all his schoolmates by his kindly view of the universe in general and of the class men in particular.—William E. Hoyt, robust and in fine health, did the class marshal act with grace and precision.—Andrew M. Ritchie cheered his former mates with reminiscences of the good old days.—Eben S. Stevens, the star ball-player at Nahant, played so vigorously and to the joy of the onlooker that he had to knock off and rest up, and so lost the last of the reunion.

1874.

C. F. READ, *Sec.*, Old State House, Boston, Mass.

The following members of the Class Association attended the various events of the recent All-Technology Reunion: Messrs. Allen, Arnott, Baldwin, Barrus, Burrison, Chase, Doane, Dowse, G. B. Elliot, Haberstroh, Means, Read, Russ, and Warren.—Walter K. Means came from his home in Milwaukee to attend the All-Technology Reunion, and was cordially welcomed by his former classmates. Continuing his travels, he went to Virginia, where he is to be engaged for several months on government work.—Charles D. Austin has returned to Cleveland after a visit to Boston of several

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weeks. He has lately finished a bank building of which he was superintendent of construction.—Edward H. Barnard, a member of the Class Association, died in Waverley, Mass., April 16, 1909, in the fifty-third year of his age. He was a special student in architecture, and became later an artist, in which profession he attained distinction.

1882.

WALTER B. SNOW, *Sec.*, 170 Summer Street, Boston, Mass.

Ten members of the class were present at one or more of the features of the reunion. Among these was George Faunce, who has not met with the class since graduation. He is now president of the Pennsylvania Smelting Company, Pittsburg, Pa.—Henry E. Snow has again been heard from. He is still in the advertising business, with office in the Commercial National Bank Building, 115 Adams Street, Chicago.—Mr. and Mrs. John F. Low announce the birth of a son, Ralph Wadsworth Low, April 27, 1909.

1884.

PROF. HARRY W. TYLER, *Sec.*, Mass. Inst. of Tech., Boston.

The second All-Technology Reunion was naturally of particular interest to the Class of '84 as the twenty-fifth anniversary of its graduation. By the kindness of T. C. du Pont his steam yacht "Tech" was sent to meet the class at Marblehead on Saturday, June 5, though unfortunately Mr. du Pont's health was not such as to permit of his presence. Those members of the class and their families who were able to be at Marblehead enjoyed a delightful cruise to Gloucester on Sunday, and the yacht then proceeded to Boston. Monday afternoon, after the inauguration, another trip was enjoyed in Boston Harbor, while the Nahant and Nantasket excursions of Tuesday and Wednesday were also made on the yacht with comfort, enjoyment, and a degree of exclusiveness perhaps pardonable for a twenty-fifth anniversary. Thanks to the energetic initiative of members western in residence or disposition, a "stunt" was duly perpetrated at Nantasket. The special class event of the week was the anniversary dinner at Young's Hotel on Monday, June 7, in a dining-room well remembered from undergraduate days. On this occasion the following thirty-two members of the class and Captain Graham of the "Tech" were

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present: C. L. Adams, C. B. Appleton, F. L. Bardwell, H. D. Bennett, C. C. Bothfeld, A. F. Bridgman, R. L. Chase, D. L. Coburn, S. S. Dearborn, A. O. Doane, A. L. Fitch, G. L. R. French, A. H. Gill, J. G. Holder, H. D. Hooker, G. T. Jarvis, G. F. Lull, F. S. Mead, E. D. Mellen, G. H. Norris, A. S. Pratt, C. O. Prescott, W. L. Puffer, A. J. Purinton, W. J. Rich, C. S. Robinson, T. W. Robinson, A. L. Rotch, E. V. Sedgwick, F. M. Stuart, H. W. Tyler, W. A. Whitney. The reunion as a whole contributed greatly to the *esprit de corps* of the class. A number of men were present who had not seen each other for more than the twenty-five years, and we may confidently expect that a stronger class spirit for the future will date from this occasion.—A silver loving-cup has been sent to Mr. du Pont by members of the class who attended the reunion. It is announced in *Science* that Professor Rotch has been elected an honorary member of the Austrian Meteorological Society. *Science* (for May 28) also contains an extended review of a recent publication of the Astronomical Observatory of Harvard College on Observations and Investigations made at Blue Hill Meteorological Observatory, and on Experiments with *ballons sondes* at St. Louis and with kites at Blue Hill. The reviewer states that without Professor Rotch's generous and whole-souled support of the Blue Hill Observatory, and without the steady, careful and devoted work of himself and his assistants, American meteorology would not occupy the same position in the world of science which it does occupy today.—Mr. Dean W. Park, Palo Alto, Cal., was fatally injured in a bicycle collision on the campus of Stanford University, May 5. Mr. Park was a native of Boston and a son of Judge J. C. Park. He had practised civil and mining engineering in various parts of the west and in Mexico since 1884. He was a man of fine character and marked ability, and was highly esteemed by all who knew him. He leaves a widow, a son and a daughter.—General T. C. du Pont has retired temporarily as head of the Republican State Committee of Delaware, and will go south to recover his health.—The sudden death of H. F. Baldwin, of Seattle, is reported elsewhere in this number of the REVIEW.

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1885.

I. W. LITCHFIELD, *Sec.*, 88 Broad Street, Boston, Mass.

The official Reunion Register shows that the following men attended one or more of the events during the reunion: Oakes Ames, E. H. Dewson, C. H. Bartlett, L. L. Dodge, R. Fiske, T. W. Fry, E. B. Homer, M. E. Jones, F. M. Kimball, J. L. Kimball, I. W. Litchfield, Arthur D. Little, Henry Martin, A. L. Merrill, E. Morss, Joseph E. Nute, G. H. Nye, R. H. Pierce, A. I. Plaisted, H. G. Pratt, C. R. Richards, William E. Spalding, G. F. Steele, H. P. Talbot. There were from fifteen to twenty men present at each of the various functions. The proximity of our twenty-fifth anniversary prevented a number of men from a distance, who wanted to be in Boston for the class reunion next year, from attending the festivities. The class stunt at Nantasket was perhaps the most spectacular of the day. The arrangements were in the hands of Dick Pierce and Artie Plaisted, who were so successful in producing sensation that, if Oliver Wendell Holmes had been present, he would have immediately given a new name to his poem, entitled "The Height of the Ridiculous." The "float," which appeared to roll into the arena in the usual way, was in reality suspended by shoulder-straps underneath the tunics of the four ladylike Romans in blond wigs, who, with stuffed pink legs extending out from their bodies on the top of the float, appeared to sit on the four corners. The horse was animated by Litchfield in the costume of Elizabeth in her German Garden, while Dick Pierce, who as Boadicea drove the equipage, was modestly attired in pink frills, rouge and a gorgeous "tarrara." In the middle of the float were four uprights, around which was draped a concealing curtain, and within this little space Artie Plaisted, who was to be the "sight" presented by the class of '85, attired in the height of the season, trudged along with a step-ladder. The float glided into the amphitheatre, followed by the other members of the class clad in academic robes and carrying real sheepskins with the wool outside. In the middle of the arena the prancing steed was halted by a withering look from Boadicea, and, after Artie had climbed up and posed on his step-ladder, the Romans broke the string and released the drapery, revealing "Queen" Plaisted in a sheath gown and a peach-basket hat, looking a bit conscious. At the sight strong men wept, and the Romans, feeling the stigma of the situation, started to go off the field with the float while "Queen" Plaisted was holding the popu-

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lace spellbound. There was a wild ripping of canvas at the rear of the float, and it was not until the Romans had left the field that Artie, posing alone on the top of his step-ladder, discovered his predicament. As revealed by the moving pictures, his "get-away" was the sensation of the afternoon.

1886.

PROF. ARTHUR G. ROBBINS, *Sec.*, Mass. Inst. of Tech., Boston.

Among the members of the class present at the recent reunion were Aborn, Anthony, Mrs. Baer, D. P. Bartlett, Chase, Cobb, H. A. Howard, Miss Kenney, Locke, Miller, Noyes, Peirce, Whitney and Winsor. Locke acted as chief marshal at the inauguration of President Maclaurin. Peirce entertained the assembled multitude at Nahant by his judicial decisions as umpire in the ball game played by two nines captained by Professor Richards ('68) and Eben S. Stevens ('68). At Nantasket the class reputation was upheld under the leadership of Winsor.—Bartlett, Clifford and Noyes are to spend their vacations in Europe.—Bartlett goes to France, where he is to meet his family and make an extensive automobile tour.—Clifford goes to England and the Continent, where he will temper his pleasure by making a study of street illumination and also of high-tension underground transmission.—Noyes, after pleasure trips in Spain, Italy and Switzerland, expects to attend the dedication of the New Research Laboratory of the Nobel Institute in Stockholm and the twenty-fifth anniversary of the Doctorate of Svante Arrhenius, a distinguished physical chemist. —Ricker has recently been engaged on the solution of the grade crossing problem in the city of Toronto, a project involving the expenditure of several million dollars. In this work he was retained by the Canadian Pacific Railway Company.

1887.

EDWARD G. THOMAS, *Sec.*, 157 Congress Street, Brooklyn, N.Y.

As the secretary was unable to attend the reunion, he has interviewed several of the fortunate members of '87, and from their somewhat indistinct memories of the happenings has evolved the following chronicle of the doings of the class: Aside from the scheduled events of the general committee, concerning which, in view of the full report elsewhere, it need only be said that '87 was well repre-

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sented. Monday afternoon Mr. and Mrs. Taintor received the members of the class and their wives at their hospitable home in Cambridge. Tuesday morning, bright and early, our transportation committee, Bryant, despatched the bunch in autos for their forty-mile ride to Chebacco. Bryant, Brett, Lane and Sprague came with their machines, and Cameron sent his own car and that of his sister-in-law, Mrs. Kebler. All arrived in good shape after an ideal ride, and first inspected Jules Cameron's new house—designed by Wakefield—on the crest of the island, with a magnificent view of the shore north of Cape Ann. Adjournment to the ball field for a little exercise in preparation for the feast was followed by the "bake." There seems to have been a barrel of clams and a rod of lobsters per man, together with various incidentals, and the pile of shells which now marks the spot is a mute testimonial of the energy and efficiency of '87 men when their duty is made plain. Malt extract was at hand by the washtubful. As Draper writes me: "Some of us had been to clam-bakes before, but there never was and never will be another quite in the same class. When gorged with clams, we turned to lobsters, and then to hot-dogs, anon returning to our first love. Some ate standing, thinking they could hold more." There seems to be no doubt who ate the longest,—that was Taintor,—but, as to who ate the most, Draper calls attention to his own superior speed. But was '87 fazed by this Herculean task? Not at all. The regular baseball game occurred as usual in the afternoon, and all landed at the Pops in good voice. Those who went to Chebacco were Hathaway, Bryant, Thompson, Draper, Stewart, Brett, Crosby, Lane, H. D. Sears, Taintor, Cameron, Blake, R. E. Schmidt, Shortall, W. A. Whitney, Granger Whitney, Sever, Cobb, Carpenter, Sprague and Douglass. All vote that there never was a host like Jules Cameron. Shortall and Schmidt from Chicago, Blake from Pittsburg and Granger Whitney from Detroit were our long-distance men at the reunion.—Draper has settled down in offices on the twenty-eighth floor of the Metropolitan Tower, occupying the whole south side. He is president of the Lake Superior Gold and Copper Company, the Coal Treating Company, Draper-Hauser Company, Farrington Company, Phillips Manufacturing Company and Hilton Company, and can furnish you everything from mining stock to a can of varnish.—Sprague, in addition to much work in the West Virginia coal fields, has just made an inspection of a mining property on the Pacific coast north of Vancouver, visiting the Alaska Exposition at Seattle *en route*.

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1888.

WILLIAM G. SNOW, *Sec.*, 24 Milk Street, Boston, Mass.

William H. Gerrish is now located in Auburn, N.Y., where he is superintendent of the Columbian Rope Works.—The class was well represented at the All-Technology Reunion, nearly thirty men having been present at one or another of the events. The class stunt at Nantasket was simple but effective, the '88 marked on the grass by white confetti withstanding the ravages of all the classes following. The stunt finished with a parade around the arena, headed by E. S. Webster mounted on a trained stallion.—The reunion brought to Boston Alexander Jarecki, who had not met with the class since undergraduate days.—William H. Blake, of New York, one of our members who has seldom been with us, was present.—Miss Marion Talbot represented the University of Chicago at the inauguration of President Maclaurin.

1889.

PROF. W. E. MOTT, *Sec.*, Mass. Inst. of Tech., Boston, Mass.

'89's Twentieth Annual Reunion has come and gone. It was a success, as those who were fortunate enough to take part will agree. In all, about fifty men were present at one or more of the functions of Reunion Week,—a very good showing. Lack of space forbids a detailed account of all our doings on the various days,—this will be published later in the class book. Suffice it to say that at Marion we mustered twenty-one men, in spite of the very bad weather on Saturday, the 5th. On Tuesday thirty-nine sat down to lunch at the Eastern Yacht Club house, Marblehead, and on the "Day of the Stunts" fully as many were in the party. Most of the men attended all the events, so that it was a reunion in fact as well as in name. The list of those who were present on one or more of the days is as follows: Alley, Ashton, Beach, Beals, Bixby, Bliss, E. L. Brown, Crabtree, Crosby, Cutter, Davis, Durfee, Estabrook, A. W. French, E. V. French, Fiske, Gannett, Hart, Hobbs, Hollis, Hopkins, Howard, Hunt, L. E. Johnson, W. S. Johnson, Kilham, Kunhardt, Laws, W. W. Lewis, Linzee, Loring, Marsh, Mildram, Mott, A. E. Norris, Pickering, F. L. Pierce, Pike, Power, Smythe, Thurber, Underhill, Wales, Warner, White, Williston, Woodbury.—Many messages of regret that they could not be with us were received from members of the class,—from Richardson

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on the Pacific Coast and Whiting in Russia. The latter is on a business trip to Russia and Scandinavia.—Sauveur, who is still absent on his "Sabbatical," was in Geneva, Switzerland.—Ranno reported from Denver, and is still busily engaged on railroad construction with the Union Pacific Railway.—Whipple has recently been retained by the city of Baltimore, to make a sanitary survey of Lake Roland and the Jones Falls watershed.—"Jerry" Ayer confidently expected to attend the reunion, and important duties had been assigned to him, at his own request, but he did not appear, and others had to step into the breach. Ayer has recently addressed the Philadelphia Technology Club on "The Problems of the Paint Manufacturer." He is building a summer home at Caspian Lake, Vermont.—Much of the pleasure of the reunion was due to the admirable and efficient way in which every detail was provided for and carried out by the Committee of the Alumni on the General Reunion, and the secretary is sure he is voicing the feelings of every '89 man in extending the thanks of the class to the committee and its chairman. The class committee having the preparation of the class book in charge would urge upon all members the necessity of sending in promptly the data sheets which have already been distributed.

1890.

GEORGE L. GILMORE, *Sec.*, Lexington, Mass.

At the grand Tech Alumni Reunion the following members of the class were present at one or more of the gatherings: Atwood, Bragg, Burley, Carney, Cook, DeWolf, Dodge, DeLancy, Emerson, Gilmore, Goodwin, Harvey, Miss S. J. Hart, Hayden, Horton, G. B. Howes, Ellis, L. J. Joyce, Kendall, Miss Maria Ada Molineaux, Moore, Newton, A. E. Norris, J. K. Noyes, Packard, Rice, W. Z. Ripley, Sherman, Simpson, Spaulding, Swanton, Tilson, Tuttle, Voorhees, Wason, Whitney. Of these Carney came on from Burlington, Ia., and Dodge from Toledo, and neither would have missed it. On the day of Classes at Nahant our class went down with Charlie Hayden on his steam yacht "Wacondah," with the Class of '68 as guests. As 1915 will be our twenty-fifth anniversary as well as the fiftieth of the Institute, we have invited the Class of '68 to dine with us on that occasion, and they have accepted through Professor Richards of '68.—George E. Hale is at present in London, but returns the first of July, going directly to Pasadena, and H. M. Goodwin and Mrs. Goodwin will accompany him.—

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F. C. Royce is now abroad.—J. H. Towne has just returned from a trip to Europe.—During the fish dinner at Nahant a count of the number of children possessed by the twenty-three present showed twenty-seven, aged from a few weeks to sixteen years.—G. T. Voorhees has recently published a book on "Refrigerating Machines."—A. H. Rogers, who had expected to be with us at the reunion, was suddenly called to New Mexico to investigate some mining properties.—C. C. Babb is at present in Malta, Mont., on government work.—The address of Mr. Samuel Storrow is 906 Wright & Callender Building, Los Angeles, Cal.—Mr. M. O. Southworth is at the Hotel Windermere, Chicago, Ill.—Professor Edward Robinson's home address is 32 Wildwood Street, Winchester, Mass.—Mr. C. G. Norris now resides at 50 Williams Avenue, Hyde Park, Mass.—Mr. B. A. Lenfest is located at 1524 76th Street, Brooklyn, N.Y.—Mr. Samuel D. Flood is now at 209 State Street, Chicago, Ill.—Mr. Schuyler Hazard may be found at 215 West 33d Street, New York, N.Y.—Mr. Guy C. Emerson, street commissioner of Boston, has his office at 44 City Hall, Boston, Mass. Emerson expects to save $800,000 in the street department to the city during the year.—Mr. James Clark, Jr., is now at 520 W. Main Street, Louisville, Ky.—The address of Mr. Edward C. Burnham is Box 528, Hopedale, Mass.—The address of Mr. Austin D. Boss is 100 Windham Road, Willimantic, Conn.—Miss E. E. Bickford is at 45 Hemenway Street, Boston, Mass.—Mr. H. E. Baldwin is with the Variety Iron and Steel Works Company, Cleveland, Ohio.—Mr. Burdett Moody has moved to 1043 San Pasqual Street, Pasadena, Cal.—Mr. Joseph L. Joyce is with the Boston Consolidated Gas Company, West Street, Boston, Mass.—Mr. Morton Carlisle is located at 229–231 East Clifton Avenue, Cincinnati, Ohio.—The address of Mr. Samuel A. Moss is Alaska Commercial Building, San Francisco, Cal.—Mr. O. Daniell is now in Tilton, N.H.—Dr. W. G. Curtis has taken up his residence at 64 Crawford Street, Roxbury, Mass.—The business address of Mr. J. Dearborn is 93 Federal Street, Boston, Mass.—Mr. Cassius M. Foster may be found at 130 23d Street, Toledo, Ohio.—The office of Mr. Franklin P. Gowing is at 21 Union Street, Boston, Mass.—Mr. F. B. Hall is at 40 Morningside Avenue, New York, N.Y.—Mr. Karl H. Hyde is located at 130 County Street, Attleboro, Mass.—Mr. Moses Lyman is now in Williamsport, Pa.—The address of Mr. Waldo A. Martin is 64 Maple Street, Milton, Mass.—Mr. George C. Osborn is at 210 Gould Building, Atlanta, Ga.—Mr. H. M. Waite is with the Seaboard Air Line, Birming-

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ham, Ala.—Hal Roberts is with the Delaney-Roberts Company, engineering and general construction, Terminal Building, 103 Park Avenue, New York, N.Y.—Mr. Charles O. Churchill is now in Binghamton, N.Y., at 95 Leroy Street.—Joe Baker is at 50 Church Street, New York, N.Y.—The residence of Mr. Philip Harvey is at 6 Lowell Road, Concord, Mass.—Charles H. Alden, Architect, formerly representing Howard & Galloway, Alaska-Yukon-Pacific Exposition Grounds, announces that he has resumed independent practice with offices at 606 Crary Building, Seattle, Wash.—Born June 17, Virginia Worthington Rice, daughter of Mr. and Mrs. Calvin Winsor Rice, Upper Montclair, N.J.—Born June 15, Margaret Spencer de Lancey, daughter of Mr. and Mrs. Darragh de Lancey, Great Barrington, Mass.

1891.

HOWARD C. FORBES, *Sec.*, 88 Broad Street, Boston, Mass.

Fifty-two men showed up at the various festivities connected with the Technology Reunion this year, from the Class of '91. Thirty were present at the class dinner, which was held at the Hotel Bellevue on Monday evening, June 7, as follows: Aiken, Alley, Bassett, Bird, Bryant, Bradlee, Buxton, Clark, Cormier, Cunningham, Damon, Dart, Douglass, Fiske, Forbes, Fuller, Garrison, Hatch, Hopton, F. C. Holmes, Kimball, Moore, Richardson, Shattuck, Spooner, Trowbridge, Vaillant, Wilder, Wilson and Young. In addition to these the following men were present either at Nahant, the Pops, Nantasket, or the banquet: Blinn, Bradley, Capen, G. A. Campbell, F. A. Cole, H. I. Cole, Dana, Hall, G. A. Holmes, W. H. Lawrence, Leeming, Pierce, C. B. Pratt, Nathan Pratt, Punchard, Ryder, Smith, Tappan, Thompson, Tyler, Walker, and Wason. A number of guests came to Nantasket, including Mrs. Aiken, Mrs. Bird, Mrs. Bassett, Mrs. Capen, Mrs. F. A. Cole, Mrs. Damon, Mrs. Fiske, Mrs. Forbes, Mrs. Fuller, Mrs. Garrison, Mrs. F. C. Holmes, Mrs. Leeming, Mrs. Pierce, Mrs. Spooner, Mrs. Young and Mrs. Vaillant. This is the best showing that the Class of '91 has ever made. The class dinner was started early in order that the men could leave to take in either the Governor's reception at the State House or the jubilee smoker at the City Club. Hotel Bellevue was selected for the class dinner, as it is located conveniently near these two places. The main business of the dinner consisted in arranging and prac-

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rising the class stunt. Cunningham's three years as president expired, and Henry G. Bradlee, of the firm of Stone & Webster, was elected president of the class for the ensuing three years. Also plans were started for a grand celebration two years from now, on the occasion of the twentieth year since graduation. A committee on 1911 was appointed, consisting of president and secretary, *ex officiis*, Cunningham, Alley, Garrison. This is only a beginning, and the committee will be enlarged later.—The '91 class stunt for the outing at Nantasket was a commentary on modern conditions, entitled "Education; or, the Modern Perseus." A Youth comes to his Alma Mater, and is armed by her with his education, represented by a sword, a shield, a scroll, and a wreath. He then turns upon the world to do battle with it. His chest swells, and he says in effect, "I am Perseus, to whom Zeus has given the power to do great things." He observes a few innocuous offenders, represented by paper poppies. These with a sweep of his sword he easily conquers. While resting on his laurels, a Dragon, which represents the money power of the world, appears. When the Youth sees the Dragon, he raises his sword aloft, presumably addressing it in the words of the ancient Perseus, "Sword of Phœbus, let thy stroke be sure, for thou smitest the enemy of the helpless." Then he approaches the Dragon valiantly, but after one ineffectual swing of his sword he stumbles and falls, and the Dragon eats him up. The part of the Mater was taken by Trowbridge, clad in a sheer, décolleté, classic gown, topped by a fiery red wig. When Walter's heroic proportions are brought to mind, it is easy to imagine there was nothing like him. The Alma Mater was accompanied by four attendants, who were Bradlee, Fiske, Wilder and Bassett. The part of the Youth was taken by Forbes. The Dragon was made up of twenty men. The burden of the manipulation fell to Douglass, who carried the head and operated the jaw. The next important feature of the Dragon was the tail, which was to be dragged by Billy Dart; but Billy was too thin and the hoops hurt him, so Harry Young took the part, and it was all right. The men of the Dragon were: Douglass, Wason, Garrison, Aiken, Moore, Lawrence, Tyler, Vaillant, Fuller, F. C. Holmes, Richardson, Hopton, G. A. Holmes, Bird, Bryant, Spooner, Young, Dart and two others. The management of the stunt fell to the lot of Arthur H. Alley, who did great work in getting it lined up promptly and arranging the details so that everything went smoothly. Cunningham's part was to arrange the Dragon, and H. C. Bradley acted as a committee of one to set up the poppies and collect the

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various properties, which were left on the ground after the stunt.—Lawrence was on the general committee, having charge of the photographs. Wilson was on the main committee in charge of the Day of the Classes at Nahant, and deserves his share of the credit for the smoothness of the arrangements there and the good dinner that was provided. Wilson also acted as cheer leader for the Pop Concert, and that was undoubtedly the reason why the Class of '91 secured special mention in the papers in regard to the showing they made in the cheering. Damon provided the Atlantic House. As usual, Jerry Campbell accepted to everything, and—never showed up. Steve Bowen was abroad.

1892.

W. SPENCER HUTCHINSON, *Sec.*, 1235 Morton St., Mattapan, Mass.

The class was well represented at the All-Technology Reunion. The following members signed the register at the headquarters: Bigelow, Burbank, H. A. Burnham, Carlson, Chase, Church, Cloudman, Curtin, Dana, Derr, Margaret E. Dodd, Douglass, Dudley, Eldridge, Emery, Fairfield, Francis, Fuller, Harwood, Heywood, Mary L. Holman, Hoxie, Hutchinson, Ingraham, Johnston, Kales, G. H. Lukes, J. B. Lukes, Manley, Maynard, Moody, Moore, Newkirk, Norcross, Park, Pettee, Pierce, D. P. Robinson, Sargent, Skinner, Spaulding, Tidd, R. Waterman, Wendell, Worthington. 24 members of the class attended the excursion to Nahant, 32 attended the excursion to Nantasket, 27 attended the class dinner, and 27 attended the banquet at Symphony Hall. The class dinner and business meeting held at the Copley Square Hotel Tuesday, June 8, was especially enjoyable to those present. Each member was called upon to say something about himself or the work he had in hand. Leonard Metcalf, the president, and William A. Johnston, the secretary-treasurer, having expressed their desire that their names should not be considered for re-election, the following officers were chosen for the ensuing year: president, John A. Curtin; vice-president, George H. Ingraham; secretary-treasurer, W. Spencer Hutchinson. The above officers, with William A. Johnston, Walter B. Douglass, and Charles H. Chase, were elected to form the executive committee.—R. H. Mansfield, Jr., writes from Hotel Esplanade, Berlin, expressing his regret at not being able to attend the reunion, and concludes his letter as follows: "Remember me most kindly to all of the '92 boys, and, whenever

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any of the bunch gets out to Milwaukee, I shall be more than glad to have them come and see me. With personal regards, I am, etc." —Mansfield is with the Cutter-Hammer Manufacturing Company of Milwaukee, and left the States on a business trip about the last of April.—Richard Waterman, who until recently was assistant to the president of the William Filene's Sons Co. in Boston, is now secretary of the Philadelphia City Club. Waterman is interested in social engineering, and he is looking forward to the work he has to do in improving the municipal conditions in Philadelphia. The work he has to do is similar to that being done in the city of New York along the lines of municipal research.—Kales and Newkirk, who came on from Detroit for the reunion have each been successful in their profession in that city.—Wendell, is planning to go aboard during the summer months, and expected to sail about the middle of June.—It is with pleasure I note the promotion of Louis Derr to the grade of professor of physics at a recent meeting of the executive committee of the corporation.

1893.

F. H. FAY, *Sec.*, 60 City Hall, Boston, Mass.

Benjamin Henry Dillon died at Fitchburg, Mass., of pneumonia, on Feb. 21, 1909. He was born May 31, 1870, the son of D. M. Dillon, of Fitchburg. He prepared for the Institute at Chauncy Hall School, Boston, and with his brother, Frederick N., entered with the Class of '93. During the freshman year the Dillon brothers were the sergeants-at-arms of the class, whose duty it was to see that no sophomores gained access to the class meetings. At the end of the first year he left the Institute to engage in business with his father in the D. M. Dillon Steam Boiler Works at Fitchburg. In 1898 he entered the employ of the Hartford Steam Boiler Inspection and Insurance Company, which concern he ably represented in the south for a number of years, making a notable record in getting new business. With this company he occupied positions of inspector, district inspector in charge of the inspection force in North and South Carolina, and special agent in charge of an extensive territory. In 1901, while located at Charlotte, N.C., he was honored by the governor of that State with the appointment of commissioner to represent North Carolina at the South Carolina Interstate and West Indian Exposition at Charleston, commonly known at the time as the "Charleston Exposition." While in the south, he met with

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two accidents which incapacitated him for about two years. Dillon was a thirty-second degree Mason, a prominent Odd Fellow, a member of the American Society of Mechanical Engineers, as well as a member of social organizations throughout the south. Although a student with the class for only a year, his personality was such that he at once became one of our most prominent members. Ben Dillon's popularity was wholly deserved. He was a man whom it was a privilege to count as a friend, and his loss will be mourned by the wide circle of classmates who knew and liked him.—At the annual convention of the American Institute of Electrical Engineers held at Frontenac, N.Y., during the week of June 28, Percy H. Thomas presented two papers upon "Output and Regulation in Long Distance Lines" and "Electrical Calculation of the High-tension Line." Thomas is senior member of the firm of Thomas & Neall, consulting electrical engineers, with offices at 2 Rector Street, New York, and 12 Pearl Street, Boston.—Jesse Bunton Baxter and Miss Katharine Woodbury, daughter of Mrs. Joseph Lucian Woodbury, of East Milton, Mass., were married at the East Congregational Church of that town on Tuesday evening, June 29. Baxter is paymaster of Walter Baker & Co., Limited, chocolate manufacturers of Dorchester and Milton, Mass. He has been prominent in town affairs of Milton where he lives, having served for several years as chairman of the board of selectmen.—The firm of Densmore & Le Clear, consulting electrical and mechanical engineers, of which E. D. Densmore ('93) is senior member, has moved its office from 15 Exchange Street to 88 Broad Street, Boston.—William Wyman Crosby, of Woburn, Mass., and Miss Marian Shaw, daughter of Mrs. Edward Lewis Shaw, one of Woburn's prominent young society women, were married at the bride's home, 60 Warren Avenue, Woburn, on the evening of June 16. The bride was attended by her sister, Mrs. Eliott Frankford Trull, and the best man was Herbert N. Dawes ('93), of Chelsea. Mr. and Mrs. Crosby will live at 41 Arlington Street, Woburn. Crosby is consulting mechanical engineer, and is associated with F. W. Dean at 53 State Street, Boston.—Sixty-four members of the class turned out at the reunion, the member from the greatest distance being C. V. Allen from Mexico City, and others from outside New England, including Hagar, of Chicago, Klipstein, of St. Louis, Ellms from Cincinnati, Braman from Philadelphia, H. R. Sargent from Schenectady, S. D. Dodge from Cornwall-on-Hudson, N.Y., and J. A. Emery, Latey, Mrs. Moody, Spofford, P. H. Thomas and Waldron from New York city. After returning from the "Day of the Classes" at

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Nahant on Tuesday afternoon, which was the first opportunity the members had of getting together, the sixteenth annual class dinner was held at the Boston City Club. At the business meeting following the dinner, Glidden, first vice-president, presided in the absence of Morss, the president, who was away on a wedding tour around the world, and at that moment was cruising in the Inland Sea of Japan. The class officers were re-elected for the ensuing year, as follows: Henry A. Morss, president; George B. Glidden, first vice-president; Edward B. Carney, second vice-president; Frederic H. Fay, secretary-treasurer; Leo W. Pickert, assistant secretary. Announcement was made of the death of Benjamin H. Dillon at Fitchburg, Mass., Feb. 21, 1909. Correspondence with President Maclaurin was read, in which he accepted '93's escort at the Tech Night Pop Concert that evening, and in recognition of the honor paid to the class Dr. Maclaurin was elected to honorary membership, in company with Dr. Pritchett and Professor Fred Parker Emery. Assembling about eight o'clock at the reunion headquarters at the Tech Union, the class marched to Symphony Hall and to its tables at the Pop Concert. When Dr. Maclaurin arrived later in the evening, he was met by the class in the foyer, and under the special escort of Governor Draper ('78) and Acting President Noyes ('86), followed by '93 with a new class banner, President Maclaurin was introduced to his first Tech Night Pop Concert. At the Nantasket excursion on Wednesday the class presented a stunt entitled "1893—A Wake—1993," in which all the classes, and Harvard as well, represented by cardboard signs, were buried in a coffin, about which were grouped the class members, smoking pipes, with Glidden officiating as master of ceremonies to the accompaniment of a dirge by the band. When '93 was laid to rest, its card persisted in bobbing up again, and repeated attempts failed to make it stay in the coffin. Finally, when all the other classes had been buried "for keeps," the bearers picked up the coffin with the '93 card on top, the draperies were loosened, disclosing the class colors of orange and black, and the wake broke up to the tune of "A Hot Time in the Old Town," the whole stunt being intended to show that, while other classes might pass away, the spirit and influence of '93 would be felt for a century. The class members present at one or more functions of the reunion were: J. C. Abbot, Miss A. M. Abell, C. V. Allen, W. T. Barnes, G. E. Barstow, H. R. Batcheller, R. H. Beattie, A. F. Bemis, S. N. Braman, S. A. Breed, S. P. Bremer, L. B. Buchanan, J. R. Burke, E. B. Carney, J. S. Codman, C. R. Darrow, H. N. Dawes, E. D. Densmore, F. N.

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Dillon, S. D. Dodge, A. B. Edwards, J. W. Ellms, J. A. Emery, W. E. Evans, F. H. Fay, G. B. Glidden, E. M. Hagar, J. W. Hall, F. B. Holmes, C. F. Hopewell, L. S. James, A. H. Jameson, S. C. Keith, Jr., A. L. Kendall, F. H. Keyes, E. C. Klipstein, W. F. Lamb, W. C. Lambert, H. N. Latey, H. M. Latham, W. A. Marcy, G. L. Mirick, Mrs. Edna Wadsworth Moody, W. H. Norris, C. L. Norton, C. L. Nutter, E. S. Page, O. E. Parks, A. S. Pevear, F. F. Phinney, L. W. Pickert, J. H. Reed, R. D. Reynolds, C. G. Sargent, H. R. Sargent, W. H. Sayward, Jr., C. M. Spofford, W. P. Tenney, P. H. Thomas, W. L. Tidd, J. S. Wadsworth, S. P. Waldron, H. C. Wilson, E. L. Wingate.

1894.

PROF. S. C. PRESCOTT, *Sec.*, Mass. Inst. of Tech., Boston, Mass.

The great event in the history of the class during the past three months has been the reunion, coupled with the fifteenth anniversary of our graduation. We have been fortunate in having our five-year reunions fall on the same periods as the big Technology reunions. This year a special attempt was made to arrange a programme that should attract men to the class affairs and at the same time not interfere seriously with the general programme. In this we were highly successful, for there never has been a time in the history of the class that so great interest and loyalty has been manifested as this year,—a circumstance which augurs well for the future. A very large number of men who were unable to attend sent letters or notes, expressing the wish that they might be with the class at all its festivities. These expressions of interest are most welcome to the secretary, who takes this means of acknowledging them all. The class dinner was held at Young's Hotel, the admirable arrangements having been made by Day. Over forty men were present, many of whom had not attended a class dinner since graduation. It is needless to say that the occasion was a very happy one. During the evening we visited the Class of '84, and still later the Class of '06, both of which were also dining at the hotel. Return visits were paid in each case, and cheers and congratulations exchanged. At the dinner the result of the letter ballot for officers was announced, Claflin being elected president, Swanton vice-president, and the present incumbent secretary for five years. Later, by a unanimous vote of those present, the secretary was elected permanently. There were no formal speeches, but a large number of fellows indulged in brief remarks and reminiscences, Claflin acting as toast-

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master. Altogether, it was undoubtedly the most enjoyable dinner the class has ever held. After the governor's reception and the smoker at the City Club a special car conducted twenty-three of the class to the Relay House, Nahant, where, after a supper of crackers and cheese, sandwiches, beer, and stories, the remaining few hours of the night were spent. Tuesday morning we were joined by a few others of the class, and baseball, bowling and tramping occupied the morning. Two so-called ball teams were organized, one captained by President Claflin, the other by the secretary. With due respect to higher authority, the president's team was allowed to win, the final score being 14 to 12. The remainder of the day was devoted to the general programme of the big reunion. One feature is specially worthy of note, however. '94 had a hearty welcome for the other classes as they came by boat from Boston, the welcome being expressed by three gigantic banners sent up by means of kites. The uppermost of these read,—

'94. '94
Excelsior. Excelsior.

Below this a banner floated,—

Greetings All Ye Other Classes,—

and another bearing the single word WELCOME. In addition to these the national flag and the Institute colors were displayed. Returning to Boston by boat, the class had its ante-Pop supper at Hotel Nottingham, with good attendance, and from there marched in a body to Symphony Hall under the banners that had floated at Nahant. About forty men were in attendance at the concert, and we introduced several novelties in the way of display signs and parlor fireworks, which added to the beauty and attractiveness of the affair rather than to its vociferousness. Nantasket day also witnessed a goodly turn-out of '94 men, a larger number being present from our class than from any class up to 1900. Our "stunt," a burlesque of the finish of the Olympic games Marathon run at London, was enthusiastically received. The details of the performance were worked out by a committee of the whole, led by Richards and Sayward. The "stunt" was prefaced by some very clever verses by Sayward, which he recited to the assembled multitude. The king and queen were represented by Duckworth and Richards, the royal attendant by Tenney, royal policemen by Lovejoy and Jenckes, judges at the finish by Phelan and Batcheller, and the medical inspector by Claflin. There were ten inspectors arranged along the course at the finish. The contestants were represented

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by King as the victorious Hayes and Prescott (always the goat) as the unhappy Dorando. The remainder of the class represented the different types of the English populace. The reunion ended at the banquet at Symphony Hall on Wednesday evening. In addition to its interest as a brilliant affair, '94 may well be proud of the memory that the decorations which transformed the hall into a scene of remarkable beauty were planned by Gardner and carried out under his personal supervision. What pleasure he lost by not attending the Nantasket celebration was made up a hundredfold in the pleasure his beautiful handiwork gave to the audience at Symphony Hall. The secretary will also always remember this occasion with keenest appreciation and gratitude because of the gift to him from his classmates of a gold and sardonyx fob of beautiful design. Unable at that time to express his deep appreciation of this act of loyalty and friendship, he wishes now to thank all the givers for their generosity. The gift will always be cherished as a token of richest reward of undergraduate days at the Institute,—the associations which have ripened into lasting friendships. In all about sixty of the men of '94 were present at some or all of the events of reunion week. The list, which may not be quite complete, is as follows: Adams, Batcheller, I. E. Beach, Bean, Bovey, Breed, Case, Chace, Chapman, Cheney, Chickering, Claflin, Davis, Day, Duckworth, Farnsworth, Ferguson, Fowle, Gardner, Hopewell, Howes, Green, Dalton, Jenckes, Jones, Kendall, King, Klipstein, Lanigan, Lacount, Lawrence, Loring, Lovejoy, Lowell, Marvell, McJennett, McKibben, Moore, Nagle, Nash, Patrick, Phelan, Piper, Prescott, Price, Richards, Ripley, Sawyer, Sayward, Scott, Swanton, Taylor, Tenney, Thorndike, Warren, Weston and Mrs. Sawyer and Miss Allen. The next big reunion of the class will occur in 1914, on the occasion of the twentieth anniversary of graduation, and plans will be begun at once to celebrate fittingly that occasion. The following clippings indicate the activities of two of our classmates:—

The following interesting facts relative to the Boston Rubber Shoe Company were given by Superintendent W. E. Piper at the recent meeting of the Malden Board of Trade. He said that in the last five years the average wages paid amounted to $1,060,408 for both factories. The taxes paid Malden were $11,176. 38,397 shares of the 50,000 shares were held in the names of citizens of Malden, and last year this netted Malden from the State $18,072. They averaged 9,399,000 pairs in the last five years, of a value of about $10,000,000. Their business depended upon bad weather. In fact, the last five years the factories had run 267 days, while before that in extremely bad winters they had run more. In the years 1899 to

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1903 they had averaged 258. The class of employees ranked high. They averaged 2,468. Those employed over ten years were 834, and 386 of these over twenty years. In fifty-six years they had never had one strike, and they had never interfered with employees outside of working hours. They made 5,833 different styles of shoes and boots.

At a meeting of the Board of Trade of Malden last week Manager A. B. Tenney, of the Melrose & Malden Gas and Electric Companies, made the following statements as to the growth of these companies in Malden,—a statement interesting to Melrose people, as they are served by the same corporations. The history of both gas and electricity from the time of their discovery to the present day was very comprehensively explained by Mr. Tenney, who also gave the history of both the companies he represents from the time they changed hands to the present day. He said that the Gas Company became their property in October, 1905, and that of the buildings which stood at that time only one now remains, showing that the plant is practically new. Since the change of management $1,212,645 was expended on repairs. The Electric Company changed hands in January of 1900, and he said $556,631 had been spent on repairs on that plant. He said that both gas and electricity are important commodities toward advancing the social welfare of a city, for under the present system light, heat and power can be had.

—Abbot is spending the summer at the Mt. Wilson observatory in California, carrying on investigations which he began there in earlier years.—Fowle, who is associated with Abbot in the work of the Astro-physical Observatory of the Smithsonian Institution, is in Boston for a few weeks, and was a most welcome attendant at the class affairs. It is several years since he has been able to join us until this year.—Every one was glad to see "Bob" Loring, looking as fine as ever, after travelling around the world and to the most remote places. He still represents the Hoe Press Company, and lives in Montreal.—Bean is national bank examiner of the State of New Hampshire.—Thropp is touring Europe on his wedding trip.—Chace has recently given a series of lectures in the Department of Naval Architecture at the Institute. He has also entertained some distinguished French naval engineers, who were giving special lectures at the Institute.—Quevedo is instructor in Spanish at West Point.—Hulse is in Europe on business matters.—Ferguson has recently declined a fine offer in connection with the work on the Greater New York water supply.—Dalton is the superintendent of the big Hartford Carpet Company at Thompsonville, Conn. He seems to have lost none of his sense of humor.—Gardner and Prescott have been appointed associate professors in their respective lines at the Institute.

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1896.

PROF. CHARLES E. LOCKE, *Sec.*, Mass. Inst. of Tech., Boston, Mass.

Miss Laura Noxon Toppan was married to Benjamin Hurd at noon on June 12. Christ Church, Cambridge, was the scene of this social event, the floral decorations creating a display of magnificence, yet simplicity, that caused it to be said that it was altogether the most beautiful wedding this historic edifice had sheltered in years. The Rev. Dr. Evarts officiated. Among the ushers were: Charles F. Tillinghast ('95), Frederick W. Fuller ('97), J. Arnold Rockwell ('96). Following the ceremony there was a large reception at the home of the bride on Highland Street, at which many Technology guests were present. Mr. and Mrs. Hurd plan to spend the coming months at Nutley, N.J.—'96 did herself proud at the reunion. The following list is as complete as it is possible for the secretary to make it. It includes the names of all who registered at headquarters and also some who did not register, but who appeared during the celebration: Mark W. Allen and Mrs. Allen, Butler Ames, William P. Anderson, David W. Beaman, Stewart S. Bell and Mrs. Bell, Edwin R. Brackett, John F. Brooks, Harry W. Brown, John G. Callan, Francis M. Conant, William D. Coolidge, Nathan H. Daniels, Jr., James M. Driscoll, Joseph Driscoll, Miss Elizabeth Fisher, Harry G. Fisk, Frederic W. Fuller, Myron L. Fuller, Robert L. Fuller, Stephen D. Gage and Mrs. Gage, Miss Hattie L. Gates, Harry S. Gilman, Leonard H. Goodhue, Amadeus W. Grabau and Mrs. Grabau, Henry G. Grush, Frank E. Guptill, Charles W. Hapgood, George E. Harkness, George P. Hatch, Harrison W. Hayward, Henry R. Hedge, William R. Hedge, Frederick M. Heermann, Ralph C. Henry, Charles G. Hyde, Henry D. Jackson, Walter H. James, Miss Rebecca Kite, Joseph H. Knight, Charles E. Lawrence, Marshall O. Leighton, Walter S. Leland, Paul W. Litchfield, Charles E. Locke and Mrs. Locke, Mrs. Mabel D. Lord, Hermann C. Lythgoe and Mrs. Lythgoe, Andrew W. Maclachlan, Edward S. Mansfield, William C. Mason, Irving S. Merrell and Mrs. Merrell, Charles P. Moat, Charles K. B. Nevin and Mrs. Nevin, Miss Grace A. Norris, Elmer H. Robinson and Mrs. Robinson, John A. Rockwell, William L. Root, Nathan H. Sanderson, Frederick F. Schaller, Henry K. Sears, George F. Shepard, Henry A. Sherman, Samuel T. Smetters, Fred H. Smith, Albert H. Spahr, David J. Spence, Walter M. Stearns, Meyer J. Sturm and Mrs. Sturm, Albert W. Thompson, Miss N. Florence Treat, Miss Eme-

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line E. Torrey, Charles E. Trout, Charles W. Tucker, Frank S. Tucker and Mrs. Tucker, Arthur P. Underhill, Samuel F. Wise and Mrs. Wise, Miss Elvira Wood, Julian E. Woodwell and Mrs. Woodwell, Conrad H. Young and Mrs. Young. Total registration, 78, exclusive of guests. No count was taken at the jubilee smoker. At Nahant the count was about 50; at the Pop Concert, about 45; at Nantasket, about 60; at the banquet, about 35. The class "stunt" differed from modern musical comedy in having a deep-laid plot. Its title was "A Technology Wedding." In it a clergyman (Harry Gilman), marked "Corporation," appeared first in the field. Next the groom (Dr. John Rockwell), dressed in red, and marked "John Harvard," accompanied by the best man (H. C. Lythgoe), in conventional attire, labelled "President Eliot." On the other side of the field, marching to the strains of the Wedding March, came the bridal procession,—four ushers (M. O. Leighton, E. R. Brackett, C. W. Tucker and Joseph H. Knight), four bridesmaids (C. G. Hyde, M. J. Sturm, C. P. Moat and A. W. Thompson), the bride (A. D. Maclachlan), marked "Miss Technology," leaning on the arm of her sponsor (N. M. Sanderson), who was marked "Pres. Pritchett," and who was to give the bride away. The ceremony proceeded smoothly up to nearly the end, when "Lochinvar Maclaurin" (E. S. Mansfield) came rushing on the field in full Scotch costume, and after preliminary manœuvres drew his sword and rescued the bride. The next character was Andrew Carnegie (Harry Brown), who passed out books as he came, and who picked Pritchett from the bunch. That left the poor groom and best man all alone and deserted by the bride. For satisfaction they gathered Clifford Harold (S. F. Wise) and Swainie George (H. G. Grush). The whole setting was backed up by members of the class, and they formed a final triumphal march off the field to the music of "Hail to the Chief" by the band. The bride was very beautiful as she came on the arm of the sponsor. Her dress was a Melrose creation of cheese-cloth, tucked and shirred and cut *en traine*. The bridesmaids appeared in white with red and gray sashes, and all wore gorgeous peach-basket hats.

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1897.

JOHN ARTHUR COLLINS, JR., *Sec.*, 67 Thorndyke Street, Lowell, Mass.

'97 did not, as was hoped, surprise herself by the number of members present at the different events of the reunion. Those who did attend, however, had a right good time. As usual, the men in and around Boston were conspicuous by their absence; that is, save for a few of the faithful Old Grads, that stand by and loyally support everything the class does. Those who came from a distance were Lamb and Binley from New York, du Pont and Bancroft from Wilmington, Del., Jennings from Georgia, Nickerson from Waterbury, Conn., Wadleigh from Bemis, Tenn., Lane from Penacook, N.H., Taylor from Schenectady, and Dougherty from Washington. Monday afternoon twelve of the class journeyed by automobile to Ferncroft Inn, Middletown, where a fried chicken dinner was enjoyed. Owing to various unforeseen troubles with the autos, the men could not get back in time for the smoker. No one regretted that, however, for the atmosphere at Ferncroft was charged with the spirit of comradeship. Those who made merry thus were Lamb, Dougherty, Worcester, Hopkins, Wadleigh, Lawler, J. Bancroft, R. A. Bowen, Collins, Jennings, Bradlee, and Fairbanks. Rockwell of '96 was invited to make of the party, and did so. Return to Boston was made about midnight. During the dinner the names of those of the class who had died since graduation were read, and a standing toast was drunk to their memory.—John S. Boyd (V.) has formed a company to be known as the John S. Boyd Company, located at Williamstown, Mass. They will manufacture, dye and finish corduroys, velvets, etc., and expect to begin manufacturing in August. Boyd was formerly with the Merrimack Mills, Lowell.—Du Pont came up from Delaware in his automobile, but was obliged to return on Monday noon, before the festivities had really begun.

1898.

PROF. C.-E. A. WINSLOW, *Sec.*, 157 Walnut Street, Brookline, Mass.

An informal reunion was held at the Technology Club on May 14. No special features were arranged in connection with the June reunion, but the class was well represented by between forty and

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fifty members.—Norman Watkins from Honolulu received the cup awarded to the second long-distance man at the reunion.—Dr. H. W. Jones, U.S.A., came from India, where he read a paper at the Medical Congress in Bombay, and was on his way to Washington to take the examinations for promotion to the rank of captain.—R. E. Kendall's address is now P.O. Box 361, Penn's Grove, N.J.—Doty has moved to Spokane, where he is connected with the Spokane Drug Company.—Philbrick is president of the new Technology Club of the Inland Empire, with headquarters at Spokane.—Packard has moved to 30 Webster Place, Brookline.—P. F. Johnson has left Milwaukee for San Francisco, where he is now manager of the branch office of the Johnson Electric Service Company, 813 St. Clair Building.—Mr. and Mrs. A. W. Tucker announce the birth of a daughter, Caroline Eliza, at Newburyport, on March 27, 1909.—Cox is taking a vacation abroad.—Curtis was married on Tuesday, June 8, at 330 Bridge Street, Manchester, N.H., to Miss Katharine Madge Hall, daughter of Mr. and Mrs. Clark Betton Hall. Stillings assisted.—Chapin has taken out some important patents in connection with his studies of dyeing.—Wright has made discoveries in regard to the relation between the absorption of the waste substances of the teeth and temporary enlargement of the tonsils, which promise to do away with a considerable proportion of the operations for the removal of the latter organs.—Sherman writes under date of April 14:—

I am to sail from New York on the Panama R.R. S.S. "Alliance" on April 26, to report to Colonel Hodges, assistant chief engineer of the Isthmian Canal Commission, as designing engineer. I shall be located at headquarters at Culebra, where the Commission is now building a new two-story house for me. Mr. W. H. Sears ('02) is to take my place as division engineer in charge of the office of the Basin Commission.

—The following clipping is taken from the *Engineering News* of June 3:—

Mr. R. Winthrop Pratt, chief engineer of the Ohio State Board of Health, Columbus, Ohio, has been granted leave of absence for a year, during which period he will serve as director of sanitary engineering to the Cuban government. Mr. Pratt has been granted a year's leave of absence from the Ohio State Board of Health, during which time Mr. Paul Hansen, associate member of the American Society of Civil Engineers, now assistant engineer, will become acting chief engineer for the board. Mr. Pratt graduated from the Massachusetts Institute of Technology in 1898. After a year's service in the engineering department of the Boston & Albany R.R., he took up work with the engineering department of the Massa-

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chusetts State Board of Health. After four years of service in the latter position he became engineer and subsequently chief engineer of the Ohio State Board of Health. During six years' incumbency in the latter position the engineering department of the board has increased in number of men from one to ten. Besides his official duties in connection with the Ohio State Board of Health, Mr. Pratt has done some consulting and designing work in connection with water and sewage purification outside the state of Ohio, notably at Washington, Pa."

1899.

HERVEY J. SKINNER, *Sec.*, 93 Broad Street, Boston, Mass.

The tenth anniversary of the class coming at the same time as the big reunion brought back a large representation from '99. The following men, fifty-three in all, were present at some event during the reunion: W. O. Adams, L. Addicks, E. E. Albee, C. G. Barry, L. D. W. Bender, R. F. Bennett, A. E. Blackmer, F. M. Blake, A. H. Brown, F. O. Clapp, C. B. Cluff, J. E. Congdon, H. C. Eaton, J. B. Ellery, G. D. Emerson, G. C. Glover, E. H. Hammond, J. L. Hern, E. H. Hinckley, W. F. Hyde, H. P. James, H. G. Johnson, W. A. Kingman, W. A. Kinsman, R. W. Loud, C. A. Moore, H. S. Mork, B. E. Morse, T. C. O'Hearn, J. A. Patch, G. H. Perkins, W. C. Phalen, E. B. Phelps, E. E. Pierce, G. M. Richmond, M. S. Richmond, G. H. Riker, T. P. Robinson, N. E. Seavey, E. R. Sheak, M. S. Sherrill, H. J. Skinner, C. A. Smith, H. H. Starr, J. A. Stetson, C. M. Swan, T. Todd, Jr., J. L. Tufts, C. A. Watrous, H. K. White, W. C. Whitney, G. C. Winslow, Jr., and W. L. Wood, Jr. In addition to the regular reunion events an informal class dinner was held at the Boston City Club on Tuesday night. A business meeting followed, at which W. O. Adams, W. A Kingman, and T. P. Robinson were elected to the class council for the ensuing year. The class stunt at Nantasket was carried out under the direction of H. G. Johnson and T. P. Robinson. A class song with words appropriate to the occasion was written by W. O. Adams. Credit should also be given to W. A. Kingman who donated the blue and gold sunflowers by which the members of the class were easily distinguished throughout the festivities.—James A. Patch was presented with a large silver cup at the Reunion Banquet as first prize for coming the longest distance. Patch is home from Beirut, Syria, where he is professor of chemistry in the Protestant College, for the first time in five years.—Subscriptions from twenty-three '99 men, amounting to $65.00, have been received for the

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testimonial for Mrs. King.—The following changes of address have been received: Mr. Warren M. Archibald, 15 Walnut Street, Medford, Mass.—Mr. Ira B. Betts, Jr., 104 E. 116 Street, New York.—Mr. Charles S. Gaskill, P. R.R. Office, Wilmington, Del.—Dr. George H. Gleason, 335 Washington Street, Dorchester, Mass.—Mr. Charles M. Hamburger, 204 Chamber of Commerce, Boston, Mass.—Mr. Harold E. Howard, 520 E. Genesee Street, Syracuse, N.Y.—Mr. A. A. Johnson, Sasin, Wyo.—Mr. Herbert E. Lawrence, care Carrere & Hastings, 225 5th Avenue, New York, N.Y.—Mr. Edwin B. Mead, 2840 Parker Street, Berkeley, Cal.—Mr. Warren A. Priest, The Glenwood, 79 Warren Street, Roxbury, Mass.—Mr. Miles S. Richmond, 40 Batterymarch Street, Boston, Mass.—Mr. H. Russell Sawyer, Rye Beach, N.H.—Mr. Horace W. Soule, 295 Fairmont Avenue, Hyde Park, Mass.—Mr. Harvey R. Stuart, Woodlawn, Wheeling, W. Va.—Mr. Lawrie H. Turner, 35 Perry Streeet, New London, Conn.—Mr. Frank A. Werner, 282 W. Market Street, Akron, Ohio.

1900.

INGERSOLL BOWDITCH. RICHARD WASTCOAT.
GEORGE C. GIBBS. PERCY R. ZIEGLER.

N. J. NEALL, *Sec.*, 12 Pearl Street, Boston, Mass.

The great reunion to which we all have been looking forward has now passed into the history of our Alma Mater as another one of the successful undertakings of the Alumni Association. Our class was finely represented in every event, and certainly attracted as much attention as any other class; and the marching of the class on the beach at Nantasket, armed with Japanese parasols, under the command of that sturdy warrior, "Inkie" Bowditch, shows what a fine instructor the class had in Major Bigelow, and also shows what a fine class the major had, and how well they retained their youthful instruction. The October number will cover the details of the reunion from start to finish, will give the names of all those present, the various stunts performed, and everything of interest. Collier, who came all the way from Atlanta, and Lincoln, who blew in from Butte, Mont., were among the ones with the greatest mileage to their credit. Lawley also came over from South Boston. In leaving, when anybody is in sight, he always takes a car for the North Station. We wonder why. The work of the reunion committee this spring showed strongly the need of a thorough re-

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organization of the class for efficient work and of a strongly centralized committee to carry it on. The class meeting at Nahant adopted the following resolution, which should admit of a satisfactory solution to the problem of a live class organization:—

RESOLUTION

Whereas the existing constitution of the Class of 1900 has been proved by experience to be superfluous and unnecessary,

Be it Resolved and Voted, That the present constitution be cancelled, and that in the future the affairs of the class be administered by an executive committee of five members. The chairman of this committee shall be chosen by the committee itself, shall perform the duties of secretary at all class meetings, represent the class in the Association of Class Secretaries and be custodian of the records. This committee shall have charge of the funds and records of the class, shall have the power to enlarge its membership temporarily if the occasion requires, and members of it shall continue to hold office indefinitely unless replaced by a vote of the class at an annual meeting or shall cease to be a member of the committee, owing to his removal from the city of Boston or near vicinity. All vacancies shall be filled by the committee itself.

The class then elected the present committee.—We are very sorry to lose from our active members Brooks, who has recently been located in Peabody. He is now at Sandy Hill, N.Y., in charge of the rehabilitation of a number of the paper-mills for the Union Bag & Paper Company, putting in modern electrical equipment.—The returns for the class history keep coming in from time to time, also the financial part is receiving attention. If you haven't sent in your returns, don't try to avoid it, because the committee will keep after you until you do.—H. E. Osgood (II.) is now located in Lawrence, where he has accepted the position of master mechanic of the Ayer Mills of the American Woolen Company. The mill is now being built, and will be equipped with turbine engines and generators, employ about thirty-five hundred, and will probably be the handsomest mill building in the town.—The engagement is announced of Miss Imogene Rankin, of Marquette, Mich., to Stuart Berwick Miller. Miller formerly lived in Cambridge, and is now assistant superintendent of the Marquette plant of the E. I. du Pont de Nemours Powder Company.—W. C. Dean announces the birth, on May 26, of his second son, Gardner Dean. Dean expected to be in Boston in July in connection with the manœuvres of the Atlantic Fleet, with headquarters on the "Louisiana."—Cotting, our famous freshman pitcher, was married March 2 to Ida

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Marion Burroughs at Chelsea.—Collier, who was present at the reunion, gives us the following news:—

S. P. Brown, who is with the United Engineering and Construction Company, has just finished the work on the Pennsylvania Tunnel under 33d Street, and is now busy designing a new sewerage system for the city of Havana, Cuba. Brown and his wife were abroad some six or eight months last year, and Brown spent most of his time studying tunnel construction in Europe. He visited practically all of the important tunnels, and gathered a great deal of valuable information. I understand that he has given several talks before engineering societies in New York lately on tunnel work. There is only one other 1900 man in Atlanta,—Harry Leslie Walker. He has recently moved into new offices in the Studio Building, and is doing splendidly. Some of the finest residences built in Atlanta during the past three or four years have been designed by Walker, and he has also designed several of the largest mercantile buildings. He is married and has two children.

—Batcheller wrote Bowditch from Smuggler, Col., in March, as follows:—

I have charge of this company's mill (the Tomboy Gold Mines Company, Ltd.), in which we handle the ore from our own mines, producing and selling gold and silver in form of bullion, and lead, zinc, copper and iron in the form of concentrates. The altitude of the mill is 11,500 feet above sea-level (just about at timber line), and the mine workings run from the lowest level at 11,000 feet to the highest at nearly 13,000 feet.

—Frank D. Chase wrote Neall as follows:—

Am glad to note also that Class of 1900 has at last got started in the REVIEW. I have taken this magazine for several years with the hope of keeping in touch with 1900 men, and finally came to the conclusion that it was useless to subscribe for this purpose, as we have had practically no representation in the magazine. I shall send in my subscription, providing we can expect class news in future.

—If there is any doubt in the minds of any of the class as to what may be expected henceforth in the way of 1900 news in THE TECHNOLOGY REVIEW, we may state emphatically that it is our official organ, and should be watched closely in order not to miss anything.
—G. F. Ashley writes from Tufts College, where he is a member of the Department of Engineering:—

This has been a busy year so far at Tufts. The Dean and I have been writing the only really good book on descriptive geometry which is on the market. It will be off the presses in about one month. I am now in full charge of the Freshman Drawing and Descript, so it keeps me moving.

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—Jennings, who is with Irving & Casson of Boston, is at present engaged on a contract for a very fine residence in Chicago, which he is just about completing. Jennings is very much interested in the matter of interior decoration and the design of fine furniture, as well as the artificial lighting of interiors.—Announcements are out of the marriage of Cornelia Warren, daughter of Mr. John Mason Wheeler, to Bertram C. Hopeman on April 27 at Oak Park, Ill. Mr. and Mrs. Hopeman will be at home at Rochester, N.Y., after December 1.—Jouett has recently changed his position on the New York Central, and is now designing engineer of the Electric Zone. Jouett took in the recent meetings of the American Society of Civil Engineers, and on the trip to the Ashokan Dam saw Bill Stone, who is as thin as ever, Searles, who had grown stout, curly-headed, smiling Suter, who is no longer a member of the Y. M. C. A., all of whom are working for the Water Board.—Notice has been received of the death of Tomokichi Hirokawa at his home in Japan, February 10. We have no particulars as yet, but will endeavor to obtain something, for Hirokawa was rapidly pushing forward in electrical engineering.—In due season some recognition is to be expressed through these columns of other members of our class who have died since our graduation. If any member can give us any details or expression of appreciation of the work of any of these men, we should be pleased to have them.

1901.

R. L. Williams, *Sec.*, 30 Waban Hill Road, Chestnut Hill, Mass.

On the evening of Monday, June 7, the class held its annual dinner and business meeting at the Copley Square Hotel. The following men were present: A. W. Rowe, G. M. Spear, J. D. Evans, W. S. Pepperell, F. B. Driscoll, E. F. Brigham, F. F. Dorsey, G. W. Allen, J. F. Monaghan, J. F. McGann, J. T. Scully, O. M. Davis, W. C. Arsen, C. E. Martin, H. I. Wood, T. H. Taft, N. L. Skene, R. H. Stearns, C. F. F. Campbell, L. P. Wood, W. M. Vermilye and R. L. Williams. During the course of the evening each man was heard from, giving a brief account of what he had been doing since leaving Technology. The meeting adjourned at 9.30, and the class went in a body to the Tech smoker at the City Club. The following officers were elected: president, J. T. Scully; vice-president, F. W. Freeman; secretary-treasurer, R. L. Williams; assistant secretary-treasurer, N. L. Skene; executive

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committee, G. W. Allen, W. E. Farnham. About twenty-five went to the shore dinner at Nahant on the following Tuesday and attended the Pops in the evening Thirty-five men showed up for the day of stunts at Nantasket. They lined up on the beach with the other classes in two divisions, with a large orange and black '01 flag in front. E. F. Brigham had command of the first division, and R. L. Williams of the second. For a stunt our class formed a huge sign in the air, fifteen feet high and fifty-four feet long, reading M. I. T. '01. Each man carried a long pole on which were tacked orange cardboard discs, eighteen inches in diameter, with a large '01 stamped upon them. The men marched around the arena in single file, and then the command was given to halt and right face, and, as the discs turned around with the men, they were spaced in such a way as to form the letters of the sign. It was a very pretty stunt, and received considerable applause.—The secretary received a letter from E. F. Lawrence, in which he regretted that he could not be with the fellows at the reunion. The firm of MacNaughton, Raymond & Lawrence, architects, of which he is a member, has just opened a branch office in Walla Walla, Wash.—Mr. and Mrs. Charles F. Clarke have announced the marriage of their daughter, Elizabeth Dunton, to Robert L. Williams, April 23, New York City. Mr. and Mrs. Williams went to Bermuda on their wedding trip, and have been at home since June 1.—Kindly send the class secretary nominations for class representative in the Alumni Council. The present incumbent, R. L. Williams, was elected for one year.

1902.

F. H. HUNTER, *Sec.*, 75 Park Street, West Roxbury, Mass.

The Second All-Tech Reunion has transferred itself, since the last issue of the REVIEW, from the future to the past. The transferring aforesaid was a glorious but all too brief performance. The following is but a slight indication of what might be told if we could monopolize a whole issue of the REVIEW. Class headquarters were maintained at the Oxford throughout the reunion. On Monday morning a number of '02 men attended the inauguration of Dr. Maclaurin. The afternoon was put in, by those not on the auto ride, at the Tech Chambers bowling alleys. Many exciting matches were rolled, but the class records were never in danger. Several classmates attended the reception at the State

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House, but a larger bunch found less formal means of putting in the time. At the smoker those present waited for '02 to start things off, which it did immediately upon arrival. On Tuesday some forty men participated in the Nahant excursion. Nickerson, as a member of the excursion committee, seemed to be the busiest man at the point. The class supper, served at the Oxford, was rather hurried, owing to the late return from Bass Point. Forty-nine men were present. The following officers were chosen: president, Dr. R. S. Williams; vice-presidents, for Boston, A. L. Collier; for New York, Duncan Wemyss; for Chicago, Kenneth Lockett. As assistant secretary, "Nick" was re-re-re-elected unanimously. Votes of appreciation were passed to the retiring president, Adrian Sawyer, and to the class secretary. A message of sympathy was wired to Kellogg, sending condolence upon the death of his father. From the class supper all hands adjourned to the Pops, where the members were increased to fifty-three, the largest number of classmates together at any one time during the reunion. A large banner in the class colors with appropriate wording was borne into the hall by Tolman and R. F. Whitney. With megaphones to aid our voices and other contraptions '02 did its share to break up the solemn hush that pervaded the gathering. After the Pops the class participated in the march to Rogers steps and the cheering there. On Wednesday some forty-eight men took in the Nantasket excursion, together with many lady guests. Stillings, with the assistance of Wadleigh and Lockett, marshalled the class for the parade up the beach. Greeley and Moltedo did yeoman service in carrying the big '02 flag in the face of a stiff breeze. The class stunt was a fake ball game between two teams made up to represent various members of the Faculty. The battery work of Roger Greeley (Despradelle) and Ralph Franklin (Niles) was the feature of the game, while the batting of Adrian Sawyer (Schwamb) and the manner in which Herbert Sherman (Cross) "covered" first base merit lengthy notice. The famous "Silk" O'Loughlin could have learned much about umpiring from the learned professor of calculus, Duncan Wemyss (Osborne.) Many of the make-ups were very close, and were recognized by the spectators without the aid of the signs on the men's backs. As a "stunt," our offering was full of action throughout and was well received by the gathering. Forty classmates attended the banquet which closed the reunion. In all there were sixty-three '02 men on hand for at least a part of the racket. Mendenhall from Salt Lake, Lockett from Chicago, Paul Hansen from Columbus, Ohio,

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and McKechnie from Lebanon, Pa., were our longest travellers. From New York and vicinity came C. B. Allen, "Dimmy" Bartlett, Montgomery, May, Wemyss, Grant Taylor and Tolman.—The "married majority" of the class grows apace at the expense of the bachelors. J. R. Morse was wedded on April 21 to Miss Erma Isabel Rogers, of Tacoma, Wash.—On June 2 Boardman was married to Miss Edith Davis, of Lynn.—"Steve" Gardner's wedding to Florence Loomis, of Attica, N.Y., took place on April 7. —Since the last issue of the REVIEW there have been two class gatherings besides those of the reunion. On March 25 there was a bowling party at the Adams Square Alleys, Boston. A heavy storm reduced the attendance, but did not cool the ardor of those who showed up. The honors went to Mahar on candle pins with 117 and Wood on bottle pins with 175. Both of these marks survived the already mentioned bowling party during the reunion; they will be in danger, however, when another meet on the alleys is held next winter. On April 6 Vice-President Place called a dinner for New York, and the same was held in Chinatown. The following men were present: D. R. Franklin, A. E. Hansen, Mather, Montgomery, C. B. Allen, J. Philbrick, Place, G. S. Taylor, and Seabury.—The following items have reached headquarters since the last REVIEW: Jane Kellogg was born in El Paso on April 29, '09.—Barbara Sears will be one year old on July 3, '09.—Elizabeth Scott Hansen arrived at the home of Paul Hansen on May 7, '09.—Miss Alpa Whitney came to the home of Mr. and Mrs. P. R. Whitney on Jan. 10, 1909.—Frederick Laidley More was born on Nov. 14, 1908. He was promptly reported, but by oversight of the secretary has not before been mentioned in the REVIEW.—Belvin Frank Williston, born on Nov. 6, 1907 has but recently been reported. —A number of changes in address have taken place recently: Hammond is covering a residency on the Panama Railroad. He requests that mail be sent to his home, Kingston, Mass., to be forwarded. —Wemyss has been transferred to the New York office of the Library Bureau, 316 Broadway, New York city.—Lewis is with F. W. Bird & Son Paper Company, East Walpole, Mass.—Kellogg, in addition to his duties at El Paso, has been made manager of the Texas Securities Department of Stone & Webster, and as such spends part of his time in Dallas, where his office is in the Wilson Building.—Hovey has removed to 42 Water Street, Boston.—May's address is 81 Centre Street, New York.—Millars's residence is 2400 Harrison Street, Evanston, Ill.—Avery is at Richland, N.Y.—Rayne Adams is with Hornbostel, the

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well-known architect, at 63 William Street, New York.—McCarthy is with the Potosi Zinc Company, Las Vegas, Nev.—R. E. Kimball is at Glen Osborne, Pa.—Crane has returned from Cobalt to Spokane.—Manley has returned east after a winter in Colorado, and has charge of construction work at Lake Kushaqua, New York. Manning is with the Crompton & Knowles Loom Works, Worcester, Mass.—Dickson is at the Naval Station, Cavite, P.I.—F. D. Allen has removed to Boswell, Somerset County, Pa.—Steever is at 6604 Michigan Avenue, St. Louis, Mo.—Charles Boardman is at 1600 Continental Trust Building, Baltimore, Md.—W. N. Brown is located at 41 Court Street, Buffalo.—A. T. Nelson has been transferred by the Trussed Concrete Steel Company from Detroit to Portland, Ore., where his address is 1120 Board of Trade Building.—F. N. Fowler is now located at 318 Main Street, (Room 606,) Springfield, Mass.—Stimson is with the Rocky Mountain Bell Telephone Company at Salt Lake City.—Finneran has moved to 48 Weld Hill Street, Forest Hills, Mass.—After July 1 Marvin will be New England manager for the Diehl Manufacturing Company, with office at 128 Essex Street, Boston.—Bertram W. B. Greene died in Boston on May 15, 1909. For several years prior to his death Greene had lived on a plantation in Porto Rico.—Grace Imogen Moore, the four-year-old daughter of L. E. Moore, died on April 17, 1909.

1903.

F. A. Olmsted, *Sec.*, 93 Broad Street, Boston, Mass.

The All-Technology Reunion was a great success, so far as the Class of 1903 was concerned. Sixty men in all registered as being present at at least a part of the festivities. Thirty-five men took the trip to Nahant, and forty-six went to Nantasket. The committee for the reunion, which consisted of Clark, Capelle, Eaton, Ricker and Stiles, provided red and gray hats and arm bands, each bearing the class numerals, so that the men were readily distinguished even at a distance, and we had easily the best decorations of any of the classes. A group picture was taken while at Nahant, and copies may be had for 65 cents by applying to the secretary. The annual class meeting was held after the return from Nahant, before going to the Pops. The class election resulted in the choice of R. J. King, R. R. Newman and M. H. Clark as members of the advisory board. —Mitchell came up from Brazil to attend the reunion, and looks as

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if South American life agrees with him.—Tuell came from Key West, Fla., where he is now located with the Key West Electric Company.—Morse came on from Louisville, Ky., and Scherrer from Indianapolis, Ind.—New York had a good representation present.—Newman sailed for Europe with Mrs. Newman a few days before the reunion.—An informal class meeting was held at the Tech Union on May 8, at which 20 men were present. J. W. Rollins ('78) was the guest of the evening, and told of some experiences in Egypt and Southern Europe.—MacGregor is just recovering from an attack of appendicitis; otherwise, he would have been present at the reunion.—Endres writes that he expects soon to move into a new position in Philadelphia, but does not say what it is to be.—Field is now located at 42 Broadway, New York.—Moies has recently left Pawtucket, R.I., and is now with the Cia. Mexicana de Alambre "Phillips," Apartado 1220, Mexico, D. F., Mexico. He writes that he is finely located, and it looks as though this will be his permanent address for some time to come. The following is an account of a recent '03 gathering in New York received from F. G. Cox:—

The New York City delegation of the class held an informal dinner and smoker at the Technology Club on May 22. There were nineteen men present, and, when their tongues became loosened, they talked over the old days to their heart's content, learning what each had been doing since leaving Tech. After the dinner a half-circle was formed around the fireplace in the library, and the cross-examination for class news continued. It was decided to organize and have an informal dinner and smoker at the club every month. During the summer any '03 man will find a bunch of his classmates taking dinner at the club on the third Friday of each month. The following men were present at the dinner and smoker: J. W. Aylsworth, G. B. Bradshaw, F. G. Cox, H. Crosby, E. Crowinbold, J. J. Dooley, L. Gillett, R. Haskell, C. M. Joyce, J. L. Lyon, G. M. Macdonald, E. W. Pelton of New Britain, Conn., J. Philbrick, F. C. Reed, E. J. Ruxton, E. C. Scofield, F. T. Taylor, G. S. Taylor, D. S. Wilson.

1904.

R. A. WENTWORTH, *Sec.*, Saylesville, R.I.
M. L. EMERSON, *Res. Sec.*, 161 Devonshire Street, Boston, Mass.

Our share in the great reunion was a grand success. With over seventy-five 1904 men registered at reunion headquarters we had a big representation in every gathering. The fellows stayed together well, marched well when marching was in order, and cheered well

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all the time. We had a big 1904 banner which was always in the foreground and a mascot called "Mert Emerson's baby" (a big auto horn) that out-howled everything. Handsome cardinal and silver arm bands reading "1904 Five Year" were worn throughout the festivities, effectively distinguishing classmates as far as they could be seen. To Galusha's work as chairman of our reunion committee the success of our arrangements is chiefly due, though all of the Boston men worked hard in his support. Sweetser tabulated the returns from the history question blanks, part of which were read at Nahant during the dinner. Hiller handled our end of the Pops; Emerson was marshal at Nantasket; and Haynes got up a class song. At Nahant in addition to the general events we had a brief business meeting out on the rocks, and after dinner a ball game with '05. The score was not reported (luckily). During the dinner the following telegram from Dr. Pritchett was read: "R. A. Wentworth, Saylesville, R.I. Letter just received. Sorry cannot join you. Please give my love to all the boys. Henry S. Pritchett." Back in Boston we barely had time for dinner before going to the Pops, but a few of the fellows ate together at Bova's. In our Nantasket stunt the next day the class marched by twos, bearing placards recording our achievements in various lines of activity and drawing a wagon surmounted by a monster fire cracker which spouted confetti and 1904 balloons. This creation was devised and built by Hiller and Holmes, and operated by them with the help of Sweetser and Stresau. We disposed of two class yells and a barrel of confetti in the short time allowed.—Hiller and Holmes ran a class dinner at the Union on April 26. At that time there was only one subject which would command the attention of Tech men, and discussion of reunion plans became the feature of the evening.—1904 men had a goodly share in the work of the reunion. Hiller and Dole fairly lived at headquarters on duty behind the registration counter, and Haynes did some heavy work at Nantasket in helping run off the stunts.—Thus far nineteen of our men have subscribed to the testimonial to Mrs. King. The list is still open for those who wish to be included.—The secretary has a few of the reunion arm-bands which will be sent post-paid on recept of 20 cents.—Stresau has been over from Munich for a few weeks in New York and elsewhere, selling manufacturing rights to the Mehns and Pfenninger steam turbine. He got over to Boston in time to get in some heavy licks on our stunt preparations.—Roland has some interesting tales of his experiences at Panama, particularly of relocating construction tracks which originally

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1905 Reunites

1905 IN CAMP

ON THE WHARF AT NAHANT

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1905 Reunites

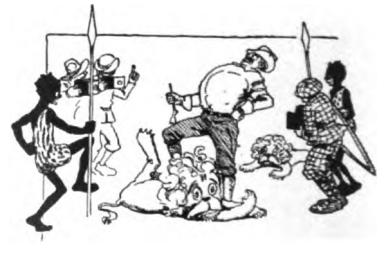
THE GOLD DUST TWINS

THROW TO 2ND, 14 MEN IN FIELD

PARKER RIVER TO IPSWICH BLUFFS

NEWBURYPORT TO PARKER RIVER

TAFFRAIL LOG, CLARKE'S PATENT



'05 STUNT, BY THE BOSTON GLOBE

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turned out for large stones and sometimes for trees. He has had very little fever, though often on preliminary surveys far beyond the limits of health-guarding activities.—Willie Cronin is a building contractor in Syracuse. He has done some good buildings in steel and reinforced concrete, making a specialty of high-speed construction. Despite the recent lull in building operations he reports a fairly busy year.—Dewis (I.) writes that he has been specializing in municipal engineering, and now has charge of all kinds of street, sidewalk and sewer construction work in Calgary, Alberta, Canada.—Bill Eager could not get to the reunion on account of the removal of his department from Chicago to Akron.—Carl King writes:—

Please note change of address (163 Beacon Avenue, New Haven, Conn.). I came down here in February to take charge of a new rope mill for the same company which I have been working for since I left Tech, the American Steel and Wire Company. I do not see how I can get back to Boston this year. Everything in my mill is new, and I do not feel as if I could get away at that time. It looks now as if I would not get any vacation this year.

—E. R. Crane is manager for Spokane of the Pacific Builder and Engineer.—Bascom was married on April 1 to Miss Virginia Clarke. —Jack Card has a son, John, Jr., born in April.—P. A. Staples was married April 21 to Miss Eliza Turner, of Houghton, Mich.

1905.

GROSVENOR D'W. MARCY, *Sec.*, 246 Summer Street, Boston, Mass.

'05 came up to expectations by turning out the record crowd at the Reunion. 119 men had registered on "The Day of the Stunts" '08 coming next with 117 men. Our part of the reunion began on the 3.30 train to Newburyport, Friday afternoon, June 4, on which met the first bunch for camp,—Allen, Barnes, Banash, Beard, Bennett, Burns, Clarke, Daniels, Fuller, Goldthwait, Hyde, Marcy, Stevens, Stebbins and Turner. Ed Coffin met us at Newburyport, and loaded us into two barges, which took us out to the Coffin farm, ideally located on a little hill in the elbow of a turn of the Merrimack River, and known henceforth as "Laurel Hill Camp." Here we found Bob Folsom as a Committee of Welcome. Ned Broad and Walter Eichler had already arrived in Ned's Stanley steamer. As soon as the boys arrived, a transformation into sweaters

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and sneakers took place, and we had explored the place and were knocking up flies when Coffin brought in the second lot, consisting of Landers, Sprague, Loughlin, Bartlett and Whitney. Supper was ready immediately, and, while we were in the middle of a hearty meal, Bob Lord arrived in a buggy, and insisted on finding a bottle of "Bud" and feeding it to the steed, which had succeeded in drawing him up the hill, before telling us the latest from Gorham, Me. After supper came a general game of tag, and, as it grew dark, we gathered before an open fire in the sitting-room of the farm-house. Charlie Hawkes came in at this point, a belated traveller from Pawtucket. A short town meeting was held, and Jim Barnes elected chief of police, Clarke and Bartlett deputies, and Bob Folsom elected "bar-keep" with everybody deputies. Sundry whist and other games were started, and the secretary had almost learned how to play poker when a drawing was held to see who got the ten beds in the house. The rest went out to the roomy barn loft, where militia blankets and bed-sacks were neatly arranged in rows. Walter Burns, Bob Lord and a few others slept all night, so well as the secretary could judge by the sounds. Saturday morning was gray and a little misty, so breakfast was eaten in the barn. While we were eating, Dan Harrington arrived. Practice for the stunt and scrub baseball filled up the morning. After dinner, camp was cleaned up in anticipation of the arrival of our guests, —about a dozen ladies,—who arrived with the following men: Ball, Barber, Elliott, Johnston (Charlie brought a Mexican mustache, which puzzled his closest friends), Kenway, Danforth, Spalding and Prescott. With the chief of police and the bar-keep as captains, two ball teams were chosen up; and, while only six innings were guaranteed before dark, such form was developed that nine full innings were played. Barnes's team won by 11 to 8, and time left for those who wished to take a walk through the laurel-filled woods before tea. The guests left about seven o'clock, amid cheers and red fire. Grouped by twos and threes, the fellows spent the rest of the evening in renewing old friendships. Sleep was more general than on the preceding night. The next morning, after we had breakfast and Bob Lord had shaved (see cut), we took a special trolley to Parker River, where the good ship "Carlotta" awaited to take us to Ipswich Bluffs. Here another ball game, in which the same side led 8 to 5 in the fifth inning, was cut short by an A1 shore dinner. On the way back we stopped at the pleasant little Country Club, of which Coffin is a member, then by special car again to Newburyport, and home by the Sunday evening train.

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A hearty vote of thanks was given the committee—Folsom and Coffin—who had so well made and carried out the arrangements. The same is due the Coffins, by whose kindness we were able to have so pleasant a camp. The rest of the reunion is described elsewhere in this volume. The dinner at Nahant, where eighty-eight '05 men sat down together, was taken as a fitting opportunity to present a silver cup to James Merriam Barnes and two gold pins to his twin sister, Milla E. Barnes, the class babies, born Dec. 31, 1906. Jim promised they should be at the next reunion in person, and, judging from the pictures he had of them, '05 may well be proud of her children. The following letter was received from Mrs. Barnes:—

708 Westcott Street, Syracuse, N.Y.

My dear Mr. Marcy,—May I, through you, thank the Class of 1905 for the beautiful gifts to my two children?

Of course I was aware of the custom of honoring the class boy in some way, but, when the cup was attended by such exquisite pins for his twin sister, I was most deeply touched.

It is my sincerest wish that James may be the finest type of Tech man, for, of course, he is foreordained to go there, and for him I could desire nothing better.

Thanking you again,

Believe me, most sincerely,

Merriam E. Barnes.

June the Twelfth.

The make-up of our stunt at Nantasket was as follows: T. R., Ros Davis; Kermit, Stebbins; Cocktail Charlie, Loughlin; Nature Faker Long, Coffin; Reporters for *Tech* and *Outlook*, Daniels and Bennett; Natives, Allen, Eichler, Bartlett, Clarke and Burns; Bear, Broad; Elephant, Whitney and Barnes; Lions, Spalding and Marcy. The secretary cannot describe the stunt, for the only way he could see anything was by opening his mouth, and T. R. cut the operating string by his first shot, or else the other lion stepped on it. The way it looked to the Boston *Globe* artist is shown herewith. Personal notes held for next issue for lack of space.

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1906.

F. A. BENHAM, *Sec.*, N. E. T. & T. Co., care of Plant Dept., Worcester, Mass.

I. *On the Part of the Secretary.*

Without a doubt the most interesting feature of this number of the REVIEW will be an account of the reunion, as to who was there and as to what they did. It is not the intention of the secretary to attempt to describe the reunion (for that will be much better done elsewhere), but to confine himself to an account of the dinner. The dinner was held on Monday evening, June 7, 1909, at Young's Hotel. Shortly after the class sat down at the banquet board, a count of classmates was instituted, and it was found that there was just half a hundred men present, including our old classmate, Mr. Frank Rand. The menu was excellent, and an orchestra furnished music while the dinner was going on. Mr. A. H. Keleher was appointed class marshal for the entire celebration, and one of his first requests was that the class should write down the salaries that they were receiving, and then an average salary was found. Taking the men at the dinner as a good average of the class, it was found that the average salary received by 1906 men was $1,436. Mr. Rand then addressed the class, and told how essential it was for alumni to keep in touch with the Institute, especially at this time when so many changes are taking place. Mr. C. F. Wetterer presented a handsome silver mug to the class baby, and Mr. A. B. Sherman accepted it on behalf of his daughter. "Ned" Rowe, who had been placed in charge of the class "stunt" to be given at Nantasket, announced that the class would call its "stunt" "Three Weeks at Tech," and would include a delay race, a push-of-war, etc. T. A. Dissel announced the results of the elections as follows: Stewart Coey, member permanent fund commission; G. F. Hobson, member executive council; F. A. Benham, class secretary; R. J. Barber, assistant class secretary. The class then adjourned to the smoker at the Boston City Club.

II. *Announcements.*

Mr. and Mrs. James Edmund Elliott announce the marriage of their daughter, Marian Ross, to Mr. Dana Melvin Wood, Thursday, April the 22d, 1909, at half-past seven o'clock, Unitarian church, Belmont, Mass.—Mr. and Mrs. Mark Hopkins Place, announce the birth of a daughter, Frances Crandall Place, May 29,

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1909.—Mr. H. V. Coes was married to Miss Agnes Wickfield Day, of Germantown, Pa., on June 5, 1909.

III. *Class News and Notes.*

H. V. Coes was at the 1906 dinner, and certainly looked the part of the happy bridegroom. Coes is now mechanical engineer and assistant to the president of Liquid Carbonic Company, 67 Wells Street, Chicago.—W. H. P. Wright writes from Oakes' Home, Denver, Col., that, while he did not feel well enough to come to the reunion, he was with us in spirit, though not of the drinkable kind.—W. J. Lumbert announces that he is also a married man, and is now working, as chief of party, with the engineers of the Commissioners of Sewerage of Louisville, Ky.—J. McKernan is away from Boston at the present time on a sewer survey for Mansfield, Mass.—E. B. Bartlett is selling machinery through the West, but, while he likes the country immensely, he still has a warm place in his heart for Boston and its attractions.—"Wee" Williams wrote that the death of his father had called him East a short time ago, and for that reason he could not come on again for the reunion.—C. L. Anson has gone to Chicago to work. Anson's absence will be felt very keenly, for he was always on hand when there was any class work to be done.—A. L. Sherman is still with the New York Board of Water Supply, and is located in White Plains. N.Y.—L. G. Blodgett expected to be on for the reunion, but could not get off at the last moment. He sent on a couple of pictures of the work in which he is engaged; namely building a concrete arch in Meridian, Miss. A part of Blodgett's letter runs as follows:—

> In February Willis Ranney stopped off in Kansas City for a few days, and we swopped several lies before he left. He is with the engineering department of the Chicago Great-Western, with headquarters in Red Wing, Minn. Guernsey (I.) also looked me up in January on his way West from Boston.

—C. G. Christy is located in Buffalo, and promises a ride on the Great Lakes in the neatest little boat on those waters to any classmate who visits him.—H. B. Hallowell is travelling for the Denver Engineering Works Company in the interests of Doctor Richards pulsator classifier and jig. On May 13, he attended a dinner of Technology men that was held in Joplin, Mo. Bent and Polhemus were also there. He also writes that Guy Ruggles is in Kelvin, Ariz., with George Henderson.—Marden Hayward has gone to Mexico.—George F. Hobson has left the city engineer's office in Lowell, Mass., and is now holding the position of civil engineer

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and superintendent of construction, War Department, Boston, Mass. His present address is 263 Summer Street, Boston, Mass., care of Constructing Quartermaster.

1907.

BRYANT NICHOLS, *Sec.*, 138 Fremont Avenue, Everett, Mass.
W. W. BIGELOW, *Res. Sec.*, 399 Lexington Street, Waltham, Mass.

I. *On the Part of the Secretaries.*

On July 1 the new secretaries named above assumed office. They announce with regret that Macomber felt obliged to resign from his office of secretary, as he is going West again soon, and it seemed wise to have a man for secretary who is permanently located near Boston. At the very outset the secretaries wish to express in behalf of the class their appreciation of the enthusiastic and efficient manner with which Macomber has performed his duties. The new secretaries enter upon their work with a spirit of eagerness and interest. They hope that the members of the class will co-operate with them in every possible way. Changes of either business or mailing address should be sent at once to the secretary. This is a simple but very important way to help. The district correspondence plan, which was adopted some time ago, will be pushed with increased vigor. The new resident secretary will have complete charge of this part of the work. New lists will be sent to the correspondents in the near future, and the secretaries expect to constantly receive interesting and "newsy" letters from the class. The districts and their correspondents are: New England, C. E. Allen, Spencer, Mass.; H. S. Wonson, M. I. T., Boston; Bryant Nichols, 138 Fremont Avenue, Everett, Mass.; New York, none; Pittsburg, none; Washington, D.C., G. A. Griffin, United States Department Agriculture, Washington, D.C.; Chicago, J. M. Frank, 3810 Grand Boulevard, Chicago, Ill.; Rocky Mountain, none; Southern, O. G. Fales, 418 Common Street, New Orleans, La.; Pacific Coast, none; Foreign, W. W. Bigelow, 399 Lexington Street, Waltham, Mass. Correspondents for the districts which have none now will be secured as soon as possible, and then the scheme will be in good working order. It will be noticed in the treasurer's report below that ninety men have paid their yearly dues of $1. This is very fair, but yet it is a small proportion of the total number in the class. All who have not paid up are urged to send their money to the secretary at once.

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The treasurer's report from July, 1907, to July, 1909, follows:—

Receipts.

Balance from Class Day Committee, as per the REVIEW, July, 1907	$145.02	
By cash, Class Day assessments	10.00	
Royalty on Tech Song Books	14.00	
Balance from class dinners	8.81	
Class dues to date	90.00	
Credited on Resident Secretary Fund	12.41	$280.24

Expenditures.

Printing and typewriting	$24.35	
Alumni Association for clerical work	36.60	
Postage and supplies	14.94	
Resident Secretary, Contingent Fund	14.41	
Reunion, 1908	25.00	
Reunion, 1909, including "stunt"	77.00	192.30
Balance on hand July 1, 1909		$87.94

The following class officers have been elected for the ensuing year: president, Donald G. Robbins; vice-presidents, Charles E. Allen, Emerson H. Packard; executive committee, Lawrence Allen; nominating committee, John M. Frank, Charles R. Bragdon, Stuart R. Miller; secretary-treasurer, Bryant Nichols; resident secretary, W. W. Bigelow.

II. *The Reunion.*

The long-anticipated reunion came and went. It was all that we had expected, and more. From the inauguration on Monday until the close of the banquet on Wednesday it was one howling success, and seventy-three loyal '07 men helped to make it so. The following men were present at one or more of the reunion events: P. L. Adams, Bob Albro, Charlie Allen, Lawrie Allen, C. F. Baker, Walter Bigelow, Harry Burhans, H. R. Chase, Sam Coupal, Harry Crohurst, Miss Maud F. Darling, Clif Draper, K. W. Dyer, "Chick" Eaton, H. P. Farrington, H. L. Fletcher, Johnnie Frank, R. D. Gale, J. E. Garrett, G. S. Gould, W. I. Griffin, H. R. Hall, R. H. Hall, J. B. Harlow, A. E. Hartwell, Hud Hastings, J. P. Hinckley, W. T. Hoover, Clarence Howe, H. B. Hosmer, Ralph Hudson, A. R. Jealous, "Granny" Jones, Bob Keyes, W. F. Kimball, E. G. Lee, "Stud" Leavell, G. D. Luther, Alexander Macomber, J. T. Mahar, H. W. Mahr, W. H. Martin, Sam Marx, Stuart Miller, E. A. Miner, W. D. Milne, Kenneth Moller, Harry Moody, Bryant Nichols,

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George Norton, "Tuckey" Noyes, R. W. Parlin, H. D. Reed, "Kelly" Richards, Franklin Ripley, Don Robbins, R. E. Sampson, Fred Schmidt, "Becky" Sharp, Gilbert Small, Winsor Soule, H. G. Spear, Ed Squire, A. F. Stevenson, "Stealthy Steve" from Lowell, Phelps Swett, Johnnie Thomas, Arthur Tylee, Sidney Wells, Stanley Wires, Harold Wonson and Bill Woodward.—At the Boston City Club smoker on Monday night '07 took her proper place among the classes, and it was at the one large table in the place where most of the men were of '07 that Dr. Maclaurin, Governor Draper, Professor Richards, "Ike" Litchfield, Bursar Rand, "Blacky," "Pa" Coburn and other prominent alumni stopped and drank a glass of beer, while the members of other classes looked on from a distance. Sixty-two '07 men went to Nahant, and had a jolly good time. Each man had a tin horn, and our boys were heard from constantly. At the Pops some of the men who had not before appeared came around, and old acquaintances were renewed. At Nantasket there were sixty-five '07 boys. The class stunt was one of the best of the day. At the bugle call, "Rogers Steps" (a section of the bleachers) were rushed on by our friends of '07. Nine policemen, under command of "Captain Hall" (Hud Hastings), took their places in front of the "steps," and two mounted police (on circus horses)—John Frank and Sam Marx—rode bravely on to the field. Then the students, in white overalls and bakers' caps, marched in under command of Wonson, reached the "steps," and a realistic "scrap" followed, in which two men were slightly injured. The policemen were completely overcome, an "ambulance" (a banana push-cart) was rushed on by Bob Albro, and the policemen, "all in," were carried off the field. About twenty-five of the class attended the banquet, and thus ended a celebration which no man who was present will ever forget.

III. *Notes and Changes of Address.*

Charles R. Bragdon was married on June 16 to Miss Helen Field Cobb, of Evanston, Ill.—At Chicago, on June 16, Ralph Crosby was married to Miss Ruth Jessamine Spaulding.—The marriage is announced of Miss Emma Hale Olmstead, of Northville, N.Y., to E. H. Sargent.—L. H. Hallett was married early in June.—All congratulations to Allen Pope. He has a baby boy, Thomas Allen Pope by name, born April 10, 1909.—Changes of address: R. C. Albro, 47 St. Botolph Street, Boston, with Horton & Hemenway, builders.—C. E. Allen, Spencer, Mass., in shoe manufacturing

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business.—Lawrence Allen, with McElwain Shoe Manufacturing Company; home, Auburndale, Mass.—L. L. Allen, 16 High Street, Brookline, Mass.—J. P. Alvey, Jr., 1228 Avenue I, Galveston, Tex.; engineer, Galveston Wharf Company.—H. P. Baker, White Haven, Pa.—Carl Brewer, mining engineer, Ishpeming, Mich.—A. O. Christensen, Dorchester, Col. (temporary).—J. R. Clark, 653 Railway Exchange Building, Chicago, Ill.—R. H. Crosby, Box 144, Waukegan, Ill.—L. R. Davis, Kellogg, Ida.—C. R. Denmark, 105 2d Street, N.E., Washington, D.C.—V. H. Dickson is now with Bartholemew Company, manufacturers of Glide Automobiles.—H. L. Fletcher, Edison Electric Illuminating Company, 39 Boylston Street, Boston.—C. A. Eaton, M.S., Treasury Department, So. Baltimore, Md.—C. R. Faben, 26th and G Streets, N.W., Washington, D.C.—H. A. Frame, with Pennsylvania Steel Company, Steelton, Pa.—L. R. Freedman, 135 West 86th Street, New York city.—R. F. Gale, The Midvale Steel Co., 2101 Tioga Street, Philadelphia, Pa.—R. N. Hall, 269 Cabot Street, Beverly, Mass.—H. W. Hill, Box 623, Springfield, Mass.—J. P. Hinckley, 16 Harcourt Street, Boston, Mass.—F. W. Holbrook, 222 Bluton Street, Aurora, Ill.—W. T. Hoover, 120 Tremont Street, Boston, Mass.—F. F. Hutchings, 11 Pine Street, South Manchester, Conn.—F. C. Jaccard, McGill, Nev.—C. Jacobson, 5438 Rice Street, Chicago, Ill.—R. G. Kann, Alexandria, Ind.—W. I. Keeler, Box 296, East Hartford, Conn.—D. P. Kelley, 715 Parker Street, Roxbury, Mass.—Captain Samuel A. Kephart, U.S.A., Fort Moultrie, Moultrieville, S.C.—A. T. Kolatschevsky, Ex-Palazzo Reale, Portici, presso Napoli, Italy.—B. P. Luce, 1621 Candler Building, Atlanta, Ga.—J. A. McElroy, 307 Golden Hill, Bridgeport, Conn.—N. A. Middleton, 29 West Preston Street, Baltimore, Md.—W. D. Milne, Lexington, Mass.—H. L. Moody is not in Pittsburg now. His address not settled.—J. G. Moore, United States Naval Station, Key West, Fla.—G. R. Norton, Second Lieutenant, U.S.A., Fort Revere, Hull, Mass.—G. W. Otis, Warsaw, N.Y.—S. K. Poole, 116 Harrison Street, Chicago, Ill.—A. N. Rebori, American Academy, Rome.—J. F. Rehn, Alpha Portland Cement, Mannheim, W. Va.—Waldo A. Rich, Jr., South Natick, Mass.—K. W. Richards, Cambria, Va.—W. D. Robinson, 41 Harrison Street, Stapleton, N.Y.—V. S. Rood, Bingham Canyon, Utah.—C. F. Runey, Cudahy Packing Company, Kansas City, Kan.—W. D. Russ, president Russ Manufacturing Company, 432 Chambers Building, Oil City, Pa.—M. W. Sage, Patent Office, 1331 Fairmont Street, Washington, D.C.—F. B. Schmidt, 1034 Monroe Avenue, Chicago, Ill.—F. B. Shields, Smith-

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port Extract Company, Damascus, Va.—H. P. Van Keuren, 421 West 121st Street, New York.—W. G. Waldo, Mercedes, Tex., farmer, sugar plantation.—E. S. Wires, The Tile Shop, 9 Park Street, Boston.

1908.

J. T. TOBIN, *Sec.*, 162 Duke Street, Norfolk, Va.
RUDOLPH B. WEILER, *Res. Sec.*, 26 Brooks Street, Brighton, Mass.

The following is a letter from "Bunny" Ames. He seems to be the '08 globe trotter. It is hoped that many of the fellows will reply:

I suppose it is about time I let you know that I am still on earth, although quite a few miles from Rogers steps. I left Boston on November 3, and landed in Buenos Aires on December 5, going via Liverpool and Southampton. The boat from Southampton also stopped at Vigo, Lisbon, and Madeira, besides all the ports along the South American coast, so needless to say, I had a very pleasant trip.

After looking around for two weeks and a half and trying 'most every railroad in the town, I landed a job on this one. The Chief engineer of the line is an American, Mr. W. F. Bush, one of a very few here. The English have almost entire control of the railroads in this country. They haven't much use for Americans nor American products, either. They say that American machinery, etc., is not built to wear, and, judging from some samples I have seen of goods from the U. S. A., I don't know as I blame them.

I went to work in the field office first, being placed after a few weeks in charge of plant and equipment. It was rather an unsatisfactory job, but I hung on for a few months, hoping for something better. Just as I got heartily sick of it and was making up my mind to leave, they sent me up here to build some cattle guards along the line. I have also been laying out a freight yard, and am now building the masonry for a weight bridge.

I am about four miles from anywhere, with a gang of about twenty Italians, including the capatay, or foreman. I fear I shall soon forget how to speak English, as it's nothing here but Spanish, or at least a mongrel language that passes as such.

It's the simple life for mine, living in a tent and going to bed at nine o'clock. There is absolutely nothing else to do here but eat, work and sleep. I am only about fifteen miles from Buenos Aires, but I have to walk four of them, if I want to get there.

I received the January REVIEW only a few days ago, and was very glad to get it.

Remember me to any of the fellows you see. If any of them have the patience to write and then wait two months or more for an answer, I shall be very glad to hear from them. And also, if anybody ever comes as far

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south as this, I hope they will let me know it, so we can get together and talk over the old days and give a few cheers for "Dear Old M. I. T." My address is care of Ferro-carril Central de Cordoba, Florida 705, Buenos Aires, Argentine.

—We regret to report the death of James G. Byrne, 1908, March 15, last, of heart trouble, after an illness of three months. He was with the class in his sophomore year in Course VI.—Information concerning the addresses of the following men is desired: John K. De Loach, Roy Hunter, John E. Johnson, Arthur F. Mohan, Walter L. Pratt.

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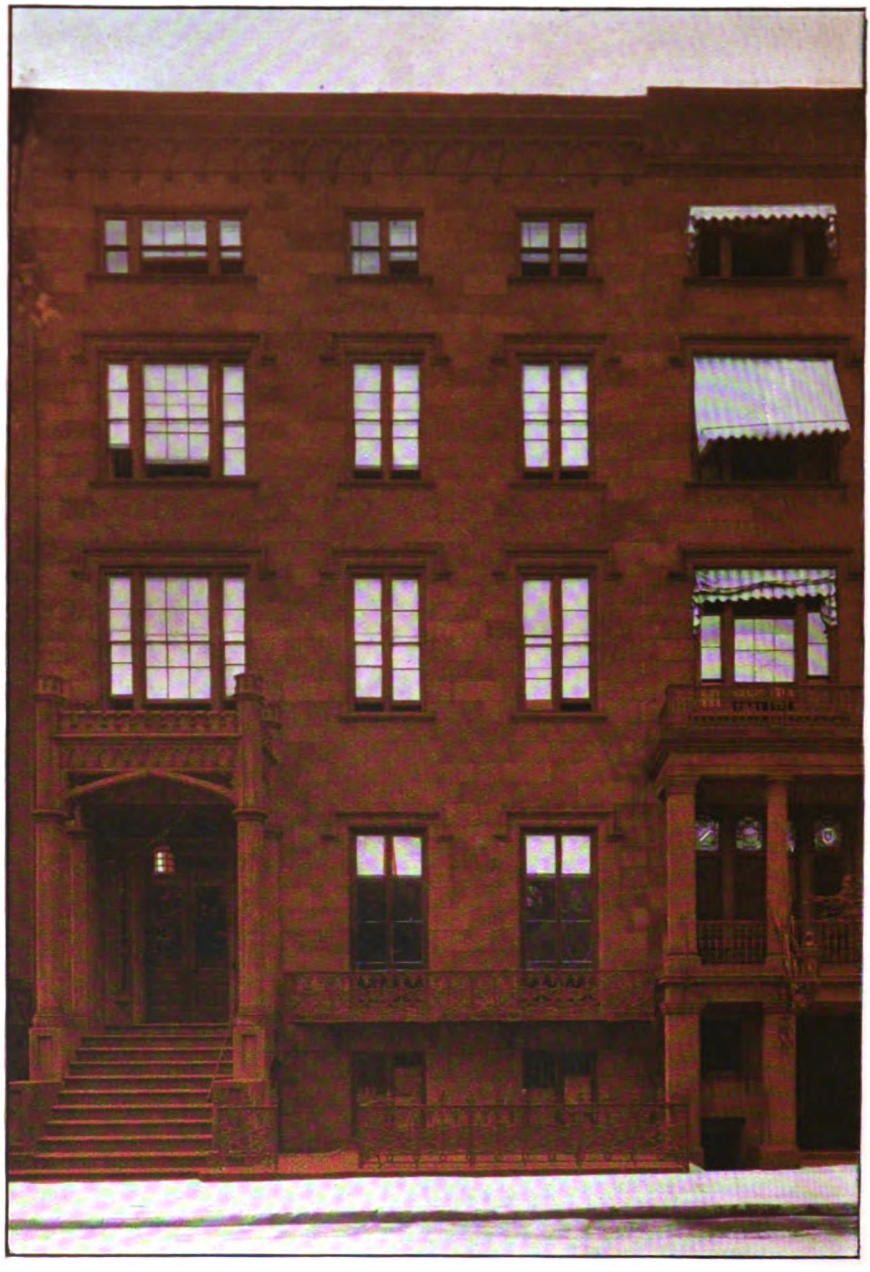

TECHNOLOGY CLUB OF NEW YORK

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The Technology Review

Vol. XI. OCTOBER, 1909 No. 4

TECHNOLOGY IN THE METROPOLIS

The New Club-house of the Technology Club of New York Popular beyond Expectation—An Increase in Membership of Eighty-five per cent. in Four Months

The recently acquired club-house of the Technology Club of New York is a monument to the progressive spirit of the Institute. It stands for the new alumni interest, friendship and co-operation. It has demonstrated in the few short months of its history that its advantages need only to be stated to be availed of by Tech men. Its success should be an inspiration in forming alumni clubs and obtaining adequate club facilities.

For six years the Technology Club of New York existed with an inadequate club-house and a membership of from 200 to 300. Every year men joined merely because they were Tech men, and many resigned or forgot the club because it afforded little or nothing of value to them. Facilities were not obtained for want of membership; membership could not be increased for want of facilities. The duties of management fell upon a few men. The initial indebtedness was reduced, but never eliminated.

Finally, in the fall of 1908 the constitution was amended and the Governing Board increased from five to ten members. The proposition of a joint club-house for the Technology Club and alumni clubs of New England colleges

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awakened general interest, and would have succeeded, had the alumni clubs other than Technology obtained the necessary subscriptions.

In the absence of such success and confronted by the termination of the lease of the old club-house, the Board of Governors sought new quarters, and found a most desirable house ready for occupancy, the expense of which was more than twice the existing income of the club. Believing, however, that the acquisition of the new house would result in increased membership and increased house accounts, and supported by the enthusiastic commendation of every member of the club who had seen the accommodations afforded by the new place, the Board unanimously resolved upon its acquisition, and, after negotiations which resulted in obtaining terms more advantageous than those originally offered, signed a lease for four years from May 1, 1909.

The house thus acquired, a four-story and basement sandstone building, shown in the accompanying photograph, is at 17 Gramercy Park, between the Columbia University Club and the Players' Club, two blocks north of the 18th Street subway station and one block east of Fourth Avenue. It has a frontage of 33 feet on Gramercy Park, and covers 75 feet of a 125 foot lot, thus assuring abundance of light and air. The house was formerly known as the Gerard mansion, and is now owned by the Gerard estate. Its spacious rooms were adapted for club purposes, and this, together with its attractive and convenient location, led to its being leased to William R. Hearst as headquarters for the Independence League Club in 1908.

It was thereupon altered and refitted to afford every club convenience. Ranges, grills, steam serving tables, and ice-chests were installed in the basement. On the first floor the large marble-tiled entrance hall was converted into an

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office and a coat-room. The long double parlors became a reception-room and a main dining-room, as appears from the photograph. The original dining-room was altered into an attractive café; and what was probably a conservatory, overlooking the garden, into a smaller dining-room.

On the second floor, reached by an artistic winding stairway, the large front room, commanding a view of the Park, became a library, and an adjoining front room a writing-room. The rooms in the rear were changed into billiard, card, and board meeting rooms, and a suitable toilet was created. The rooms on the two upper floors were made into double and single bedrooms with running water and bath.

Electric light was provided, and the entire building was redecorated. The house was expensively furnished. Plush carpets were laid on the parquet floors and stairways, and the furnishings included comfortable leather-covered easy-chairs and lounges, oak dining-room tables and chairs, mahogany writing-desks and reading tables, a billiard and pool table, high leather-covered chairs for the billiard-room, brass beds and suitable furniture for the sleeping apartments. The board room even included desks and a typewriter.

In the spring of 1909 the Independence League Club no longer desired to occupy these splendid quarters, and the lessee wished to sublet the building and to sell the furnishings. The lease finally signed by the Board of Governors of the Technology Club provided not only for payment of the rental from May 1, 1909, but instalments for the furnishings, the same to become the property of the Technology Club at the expiration of the four-years' lease.

To these spacious and attractive rooms, previously dust-covered and silent, came on the evening of May 7 several hundred enthusiastic Tech men, crowding about Presi-

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dent Maclaurin and Mr. I. W. Litchfield, greeting their words of congratulation and good wishes with resounding M. I. T. cheers. Sixty-five men thereupon joined the club, and a subscription of some $3,000, to meet the anticipated expenses above income for the first year, was quickly pledged. At a subsequent meeting, when the house was again crowded, representatives of our neighboring clubs, Columbia, Princeton, Players' and National Arts, gave us a cordial welcome to Gramercy Park. The four months which have since passed testify that the anticipated interest and support of Tech men in New York are certain.

This interest and support are evidenced by the increase in membership from 264 on May 1, 1909, to 446 on Sept. 1, 1909, or 85 per cent. in four months. Even more gratifying is the fact, appearing from the club vouchers, that not less than 200 members, or nearly 50 per cent., were at the club-house during the month of August, showing that the club-house is a popular resort. The house accounts in August were $1,378, which included $830 for meals, 1,798 meals, an average of 58 a day, or about 20 luncheons and 40 dinners daily, excluding Sundays. The receipts from cigars were $95, and the pool table netted $40. The increase in house accounts since the opening of the new club-house, indicated on the accompanying diagram, strikingly attests the increasing success of the club, as its facilities become known. Thus the house accounts increased from $640 in April, the last month in the old house, to $1,020 in May, the first month in the new place, and to $1,130 in June, $1,230 in July and $1,378 in August, an increase in four months of over 100 per cent. This is apart from room rental, which in August was $450.

It has been no small task to keep pace with the increasing requirements, but the House Committee and the Registrar have been equal to the occasion. The force of employees

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has been constantly increased; excellent meals have been served to all who came; the sleeping apartments, including those reserved for transient members, have been kept in use; economy has been observed, and members have soon received statements of amounts due. It was apparent that the greatest difficulty would be to have cash in hand for rental and supplies, but this was lessened by the increase in membership, and the Treasurer's request for prompt payment of accounts met ready response. The existing dues, inadequate for such a club-house, could not be increased within the year, but the Board's request in August for subscription payments of not less than $5 from members re-

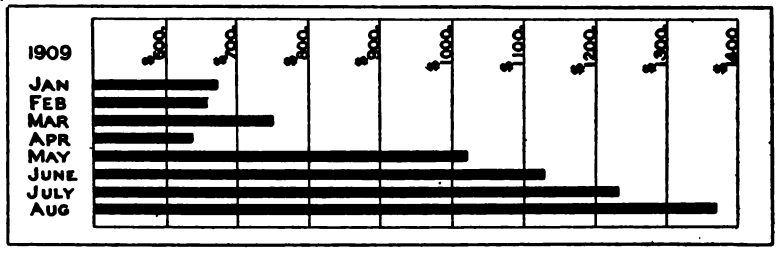

Diagram showing increase in House Accounts

cently graduated and $10 from other members will result, as appears from amounts already received, in assuring the continuance and growth of the new enterprise.

The Board has proceeded to make further improvements needed in the house. Shower baths and additional toilets have been placed on the upper floors; the basement has been altered to provide sleeping-rooms for servants; and in the fall improved heating facilities will be installed. Pictures have been loaned by members, and more are expected. A special subscription list has been started to provide more magazines, and the subject of books for the library will receive attention.

Plans are now being made by the Entertainment Com-

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mittee for a series of monthly smokers and entertainments, beginning October 2, which will from time to time include addresses on scientific subjects. On every day of the month members find, and will continue to find, congenial companionship at the new club-house. They bring their friends to luncheon or dinner, to be enjoyed in pleasant environment. Classes meet to renew memories and associations and continue good fellowship. Every evening men are in the reception-room, library, writing-rooms, and about the pool and card tables. Technology has advanced in New York city in the maintenance of a club-house on a par with those of leading colleges.

Of most importance, the younger graduates of the Institute coming to New York now receive a hearty welcome, make new acquaintances and very often form business relations through the club. In this connection the Board of Governors has recently appointed an Advisory Council for the purpose of securing employment for Tech men.

The possibilities of such and other advantages are unlimited, it being necessary only, in securing the best results in all the activities of the club, to increase both the resident and non-resident membership until all Tech men in New York and its vicinity and all who from time to time visit New York city are enrolled as members. This is being rapidly accomplished. Every new member brings others. The Membership Committee now numbers fifty-five men, among whom has been apportioned the duty of personally writing to non-members in the vicinity, and, if necessary, of personally interviewing them.

The time will soon come when no Tech man can say he has failed to join the club through want of information respecting its advantages nor for failure to receive a cordial invitation to share in the enjoyment of its comforts and benefits and in promoting, by united effort in every possible manner, the interests of the Institute. WILLIAM H. KING, '94.

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INTERESTING FACTS ABOUT REGISTRATION

Larger entering class than last year.—Eighty-nine Colleges and Technical Schools represented.

In the two informal counts made of the registration this year the number of students has exceeded that for the last four years. The official count is always made on the 1st of November. The number last year was 1,462 on that date; the number this year will be larger.

The number of students admitted to the Institute on the basis of their work at other colleges is the largest that it has ever been. The number last year was 170, while already 180 have been so admitted for the college year.

Among the colleges represented by these new students are:—Acadia University, Alytilen (Turkey), Allegheny College, Armour Institute, Argentina National College, Arkansas, Bates, Brown, Boston College, Boston University, Bowdoin College Calcutta University, Case School of Applied Science, Chicago University, Columbia, Colorado, Cornell, De Pauw University, Dartmouth, Franklin and Marshal, National University of Greece, Georgia, Graceland, Haverford, Holy Cross, Harvard, Indiana, Imperial Japanese Naval College, Johns Hopkins, Lewis Institute, Lehigh, Leland Stanford, University of Minnesota, Massachusetts Agricultural College, Michigan, McGill, Middleboro, Maine, Military College of Mexico, Polytechnic School of Montreal, Maryland Agricultural, New York University, New Zealand, Nebraska, New Brunswick, Newbury College, College of the City of New York, University of Oregon, Ohio State University, University of Pennsylvania, Pennsylvania State, Princeton, Queen's University (Kingston), Rensselaer, Radcliffe, Rhode Island State, University of Rochester, St. Mary's, South Carolina, Syracuse, Smith, Sacred Heart, St. Louis, Stevens Institute, St. Xavier, Trinity, Tufts,

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Throop Polytechnic, Texas Agricultural, United States Naval Academy, University of Virginia, Virginia Polytechnic, Virginia Military Institute, Worcester Polytechnic, University of Washington, William and Mary, Wisconsin, Western Reserve, Washington and Lee, Williams, Yale,—the largest number having come from Yale.

Among the five hundred students coming to the Institute this year many nationalities are represented. In the total student body thirty-two foreign countries have sent men to the Institute. The distribution of students by states will probably represent a wider spread than last year. The figures are not yet available. Last year in the total number of students there were representatives of forty-four states and two territories, besides the District of Columbia, Philippine Islands, Porto Rico, and the Canal Zone.

Some of the Tech men who have sons at the Institute are: David Baker, III., '85; George Bowers, I., '75; William W. Brewster, '70; Henry F. Bryant, I., '87; George H. Capen, '83; Richmond H. Cushing, '75; John R. Freeman, I., '76; Linus Faunce, II., '77; Roderick D. Hall, VI., '89; Edward B. Hayward, I., '84; N. G. Herreshoff, '70; William H. Kerr (deceased); Mrs. Kerr-Baer, VII., '86; Mrs. Margaret N. Otis, '82; Frank A. Smythe, I., '89; Francis H. Silsbee, II., '74; Thomas F. Stimpson, III., '77; Frank Tenney, III., '83; James P. Tolman, III., '68; B. Vonnegut, IV., '76 (deceased); George R. Wallace, I., '81. Thomas A. Edison and General A. W. Greeley have sons at the Institute in the first-year class.

In the first part of the REVIEW, next to the table of contents, will be found the officers of the Alumni Association and committees, the list of class secretaries with addresses, the names of the Alumni Council, and a list of the alumni associations, with the addresses of the secretaries.

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THE PURIFICATION OF SEWAGE

Interesting Results have been obtained at the Sanitary Research Laboratory in Co-operation with the United States Geological Survey.

The problem of purifying sewage so that it no longer transforms the rivers into which it is discharged into open sewers has been so far solved that these streams need no longer be disgusting to the senses and dangerous to the health of people living along them. The task of destroying the disease-breeding bacteria in the sewage and once more making the rivers available for drinking water has not yet been worked out on a practical basis, but investigations recently made by the United States Geological Survey in co-operation with the Sanitary Research Laboratory of the Massachusetts Institute of Technology and local authorities at Boston, at Baltimore, and at Red Bank, N.J., show that this end, too, may be attained at a reasonable cost.

A recent bulletin of the United States Geological Survey says that the essential agents of sewage purification are provided and employed by nature, and sewage purification as practised today is but the intensive application of these natural processes. The improvements that have been made have not involved the discovery or application of new principles, but have merely increased the working efficiency of the natural agencies. From the old-time sewage irrigation field, with its maximum capacity of possibly 10,000 gallons an acre in twenty-four hours, to the present-day trickling filter capable of dealing with 2,000,000 or 3,000,000 gallons an acre a day, improvement has been steady.

The old-time methods, however, really destroyed the polluting substances, while the modern sewage filter does not. The liquid flowing from these filters looks to the untrained eye like the original sewage. There is almost as much organic matter in it as in the raw sewage, and sometimes more. Its nature, however, has been

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changed: the organic matter, though not burned up, has been charred or partly oxidized, and this charring has been sufficient to rob it of its foulness. In other words, its chemical composition has been so altered that it can no longer undergo rapid putrefaction and cause a nuisance.

The water, however, still needs filtration to make it fit to drink. Moreover, it may, and in many cases does, contaminate oyster beds, thus spreading disease and tending to ruin a great industry.

It has not yet been decided upon whom the responsibility rests for keeping the rivers clean, but the consensus of competent opinion requires that, if sewage is discharged within the region of important shellfish beds or into a stream which is used as a source of domestic water supply without filtration, such sewage shall at least be free from disease-breeding germs.

The Geological Survey experiments, which are set forth by Earle B. Phelps ('99), in Water-supply Paper 229, just issued, show that the application of a small amount of available chlorine in the form of bleaching powder to the customary "purified" sewage effects satisfactory disinfection. The removal of bacteria by this means averages over 95 per cent., making the removal for the whole purification process 98 to 99 per cent. of the number in the crude sewage. The cost of disinfection ranges from $1 to $1.50 per million gallons of sewage, depending chiefly on the size of the plant. Five parts per million of chlorine probably represents the maximum amount required for the treatment of trickling-filter effluents of poorer quality. The results obtained with the amounts of disinfectant specified do not, of course, amount to complete sterilization, but they may reasonably be called "practical disinfection." Considerable additional cost is required to improve them but slightly.

At the commencement exercises in June the class statistician made the statement that the average cost of a Tech course for the student living at home is $2,500 for the four years, and for a student living away from home about $4,500.

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TECHNOLOGY CLUB OF NEW YORK — RECEPTION ROOM AND DINING ROOM

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NEW COURSE IN ELECTRO-CHEMISTRY

A new course, known as Course XIV., has been established at the Institute to take the place of Course VIII., Option 3. The Course has been established to meet the demand for men properly trained in electro-chemistry, and is being developed by Professor Goodwin who is in charge.

The course was preceded by an option in physics, established in 1901, and the demand for graduates who had taken this option was so large that it was decided to make it a distinct course.

The profession of electro-chemistry is one of the youngest of the engineering professions, and it is developing on an enormous scale. The industries requiring specially educated men in these lines embrace those in which electrical energy is utilized either directly or indirectly as a source of power in affecting chemical changes and those in which chemical energy is transformed into electrical energy.

Cheap electrical power obtained from water power centres like Niagara Falls makes possible the manufacture of many substances which have, up to the last few years, been unknown or else manufactured only at great cost. The calcium carbide, aluminum, graphite, carborundum, and caustic soda industries are instances of the remarkable progress in electrical lines. The refining of metals as well as the reduction of ores, as shown by the rise of the electric furnace in obtaining high-grade steel, illustrates the application of electricity in chemistry.

Electro-chemistry is an experimental science, and involves a thorough knowledge of the principles of theoretical and applied electricity, of theoretical analytical and applied chemistry, and requires the ability to apply this knowledge to unsolved problems. Great emphasis is placed on the fundamental principles of physics and chemistry.

The course, however, is quite broad, and gives its graduates abundant opportunities, not only as electro-chemists, but also in engineering lines.

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Professor Goodwin, who has charge of the course, was graduated from the Institute in 1890, and took his Ph.D. at Leipsic four years later. He has been connected with the Institute successively as Assistant, Instructor, Assistant Professor, Associate Professor, and Professor.

Dr. Goodwin is the author of "Precision of Measurements and Graphical Methods," "Physics Laboratory Experiments in Mechanics, Optics and Heat," "The Fundamental Laws of Electrolytic Conduction," as well as numerous papers on physical and chemical subjects.

Where the Students come from

Science for October 1 contains Professor Tombo's annual study of the geographical distribution of the student body for 1908–09 at a number of universities and colleges. The comparison includes twenty-one universities, thirteen of them state universities, five colleges for men and three technological institutions,—Lehigh, Purdue and the M. I. T.

Fifty-seven per cent. of our students come from Massachusetts, the corresponding percentages for the colleges in this group tending downward. Of the eastern universities, Pennsylvania has sixty-eight per cent. of its students from its own state; Columbia, sixty-three; Cornell and Harvard, fifty-three; Yale, thirty-four; Princeton, twenty; Virginia, fifty-six; Johns Hopkins, forty-three. From New York state Williams receives 187; Amherst, 169; Dartmouth, 111; the Institute, 99. The Institute is exceptional among New England colleges in the proportion of students coming to it from the South Central states. Harvard's contingent from the North Central district has dropped from 526 to 502, and the Institute with 121 has been passed by Dartmouth with 127.

From foreign countries Pennsylvania has 225; Columbia, 166; Cornell, 157; Harvard, 147; California, 76; Wisconsin, 86; the Institute, 72; North-western, 71; Illinois, 62; Michigan, 69.

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PREPARING FOR THE GREAT CAMPAIGN

Referring to the matter of a new site and new buildings, Dr. Maclaurin said at the reunion banquet: "I, for one, am perfectly definite that the thing to do first is to secure a new site, and on that new site raise a new Technology with all the good characteristics of the old Technology. . . .

"But the problem is not going to be solved by mere enthusiastic talk. It must be attacked in a practical way, with business-like organization. I ask you now to set yourselves at once to organizing your efforts and to seeing what can really be done. To me it would be unwarrantable liberty to ask you to give money, knowing, as I do, the sacrifices you have made in this direction. It is not so much money that I ask for. I know you will give that as far as you can. The problem presented to you is that of giving time, thought, and energy to the work of *interesting other people in this Institute.*"

Those who have come in contact with the new President know that he has set his face steadily toward the great end to be attained, and that he expects the hearty assistance of every Tech man. During the summer a great deal of preliminary work has been accomplished, and it is understood that a systematic campaign is being laid out by the President that will embrace the whole country. There is no Tech man who cannot be of some assistance in suggesting possible donors or reaching men of large means. President Maclaurin will welcome any suggestions bearing on this subject. The ball has just begun to roll.

Remember that Field Day occurs at Tech Field, November 5. Take a Huntington Avenue car for Brookline and get off at Pond Street. The game begins at 2.30 o'clock. The Harvard-Tech cross country race finishes at the Field. There will be a number of class parties there this year; and, if you think of going, call up your class secretary and join the group.

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NOMINEES FOR ALUMNI OFFICES

As announced in our advertising pages, nominations for the various offices of the Alumni Association have been made by the Nominating Committee, and ballots will be sent out to the members of the association before November 20. Polls will close December 20.

The nominees for term members of the Corporation are: Edward Cunningham, '91; Cass Gilbert, '80; W. Spencer Hutchinson, '92; C. A. MacClure, '94; Hon. Frank W. Rollins, '81; J. Waldo Smith, '87; Edwin S. Webster, '88; Paul Winsor, '86. Members of the Alumni Association who have not been connected with the Institute as students for at least five years shall be entitled to vote for term members of the Corporation.

The nominations for officers of the association are: for president, A. F. Bemis, '93; for vice-president, Eben S. Stevens, '68; for secretary-treasurer, Walter Humphreys, '97; for executive committee, Walter E. Piper, '94; George W. Swett, '03; for representatives at large, Charles Hayden, '90; Franklin W. Hobbs, '89; Allan W. Rowe, '01; Stoughton Walker, '87; Professor George V. Wendell, '92; for advisory council on athletics, J. L. Batchelder, Jr., '90.

As provided for by the Constitution, additional nominations for any office or for election to the Corporation, signed by at least thirty members of the association entitled to vote for such nominees, shall be placed on the official ballot by the secretary if received by him before November 5.

As indicating the trend of electrical engineering study at the present time, it is notable that forty per cent. of the students recently graduated from the electrical engineering course at the Institute already bore degrees of Bachelor of Arts or Science, conferred, as a rule, in classical or literary courses.

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NEW SANITARY RESEARCH LABORATORY

A new sewage experiment station, larger and much better equipped than the old one at Albany Street, has been put in operation during the summer at Old Harbor Point in Dorchester. It includes three trickling beds, a sand filter, a Dibdin plate bed, a septic tank and a sedimentation tank. Sewage flows to the plant by gravity from the main deposit sewer of the South Metropolitan District. A. D. Fuller, '95, was contractor for the plant. One of the new trickling beds is equipped with the gravity distributor designed at the old station, a second is dosed with the Waterbury intermittent sprinkler nozzle and for the third an automatic travelling distributor of the Fiddian type has been ordered from Ham, Baker & Co., of London. A duplicate was made by this firm at the same time for experiments to be carried on by the city of Paris.

The Physiological Laboratory, Room 24 Pierce, has been partitioned off so that the east half forms a separate laboratory, which will be devoted to the analytical work of the Sanitary Research Station. Mr. G. T. Palmer, B.S. University of Rochester and M. I. T. '09, has been appointed Research Assistant, and will be in immediate charge of this work.

Professor Wickenden comes to the Institute

W. E. Wickenden, a graduate of Dennison University and formerly of the electrical engineering staff of the University of Wisconsin, has been appointed Assistant Professor of Electrical Engineering at Technology, to succeed Professor George C. Shaad, who has gone to the University of Kansas to take charge of the

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Electrical Engineering Department of that institution. Professor Wickenden taught for two years in the Rochester (N.Y.) Athenæum night school, returning to the study of physics as a graduate student at the University of Wisconsin, where he received a Master's degree. Since 1905 he has been on the instructing staff of the University of Wisconsin. Professor Wickenden has devoted considerable time to research work in physics, and is the author of a treatise of photometry and illumination.

Tech-Harvard Cross Country

The annual cross-country contest between Harvard and Technology over the Technology course from Highland Station to Technology Field, Brookline, a distance of four and one-quarter miles, will take place on Field Day, November 5, finishing at Tech Field.

H. Jaques, the fast Harvard distance man, is now out of college, and Technology has an excellent chance to register another victory over the crimson.

Coach Kanaly is hopeful that the losses by graduation will be fully made up from the new material. During the last five years Tech has won three out of five events with Harvard.

Completing the Register of Former Students

As the early records of the Institute are somewhat incomplete, the names of many former students do not appear in the Register of Former Students. The Register was pushed forward so rapidly in order to appear before the Reunion that many addresses had to be omitted, as there was not time to have them authenticated. The alumni office is now making a systematic effort to complete the record, and your co-operation in this work is earnestly desired.

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FINANCING ATHLETICS

The management of Technology sports has been entirely reorganized during the summer on a basis of co-operation which, it is believed, will be a tremendous help to Institute sports. The Association treasurer will make all expenditures and receive all receipts from each of the various branches of athletics, whereas heretofore the manager of each team administered the finances of his department independently. In this way the non-paying sports will be supported by the more lucrative departments.

The Technology Athletic Association is made up of the captains and managers of the various teams and two representatives elected from each class. It is organized with a president and executive committee. Acting as an auxiliary body, the Alumni Advisory Council on Athletics is made up of the men who have been prominent in sports at the Institute and who are still much interested. Under the new organization the Association will issue combination tickets which will admit the bearer to all games during the year, including Field Day, the fall track meet, basket-ball games and tennis matches, and which gives the first choice of seats in the Technology section of the annual B. A. A. indoor meet.

A larger number of alumni turn out to witness the undergraduate sports each year. Their support just now, when the new scheme is being started, will be of great value to our athletic interests.

The Book about the Institute

The book entitled "Concerning the Massachusetts Institute of Technology," published by the undergraduates, appeared in September. It is a cloth-bound book of 115 pages, descriptive of social and educational phases of Institute life, and is primarily published for

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the use of freshmen and prospective students. The undergraduates who have successfully carried through this commendable enterprise have sent a copy to every man who took the entrance examinations and to every Institute student. Each of the instructing staff received a copy, and a large number was sent to preparatory schools throughout the country, the expense being borne entirely by subscriptions secured by the undergraduates and by returns from advertising. It has still a small deficit of less than $50, and readers of the REVIEW who desire to help the enterprise, and at the same time get an up-to-date view of Institute life, should send one dollar to the president of the Institute Committee for one of these books.

Intercollegiates over Tech Course

The intercollegiate cross-country championships will be run off over the Technology course at Brookline on Saturday morning, November 20. For the last three years the run has been held on the Princeton course. On the last occasion the Institute team ran second to Cornell, beating all the other colleges represented, but was entitled to no record because the Institute had not then been admitted to the Association.

The start will be from Technology Field, Brookline, and the finish will be at the same place, including a turn around the quarter-mile track at the Field. The run will be held not later than eleven o'clock, so as to allow the spectators to take in the Harvard-Yale football game at the Stadium in the afternoon.

Don't forget that every man who reads this is expected to make some suggestion that will aid in securing the millions that we are to raise for Technology during the next three or four years.

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HONORARY DEGREES

At the recent inauguration of Dr. Ernest Fox Nichols as President of Dartmouth College, the degree of Doctor of Science was conferred on President Richard Cockburn Maclaurin.

At the inauguration of Professor Lawrence Lowell, as President of Harvard University, the degree of Doctor of Science was conferred upon Arthur A. Noyes ('86), "chemist of renown, leader of research in physical chemistry, professor at the Massachusetts Institute of Technology, and recently its head, our neighbor, our fellow-laborer, and our friend." Dr. Noyes also received the degree of Doctor of Laws from Clark University in September.

Professor Percival Lowell also received the degree of Doctor of Laws from Clark University.

At the Yale commencement the degree of Doctor of Science was conferred upon Professor William T. Sedgwick, "splendid public servant."

On the occasion of the centenary of the birth of Charles Darwin in June, Cambridge University, England, conferred the degree of Doctor of Science on George Ellery Hale ('90).

The Demand for Tech Graduates

The demand for Tech men has been so great this summer and fall that the heads of courses have been unable to find men to fill a number of good openings.

Professor Miller, of the Mechanical Engineering Department, is quoted as saying that of the sixty-one men receiving degrees as mechanical engineers last June each man had the choice of at

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least two positions, and throughout the summer he has received several requests for men which he could not fill.

In the Mining Engineering Department the summer school had to be abandoned this year because the immediate demand for mining engineers early in the summer was so imperative.

A Student Employment Bureau

Since Mr. Scharff ('09) became President's Assistant, he has reorganized the Technology Employment Bureau so that it has become of very practical assistance to students who find it necessary to earn money during their course at Technology.

This year the bureau started with an original system of registration, based on a study of the experience of other college bureaus, and an assistant has been secured to canvass for employment, and work of all kinds is coming in rapidly. No charge is made for the services of the bureau, and employers often find it fully as useful as students.

The Glad Hand

Although the advertising patronage of the REVIEW has increased very much during the past year, the expense of the large special editions in January and July and unusual expenditures to come make it desirable to largely increase the returns from this source. The advertising value of the magazine has grown with every issue, as the character of our patrons clearly indicates. The REVIEW has no paid advertising solicitors, and we hope that our interested alumni will tuck this matter in the corner of their minds, and see that their business is represented, if only in a modest way, in the columns of the REVIEW. The rates are given on the first advertising page.

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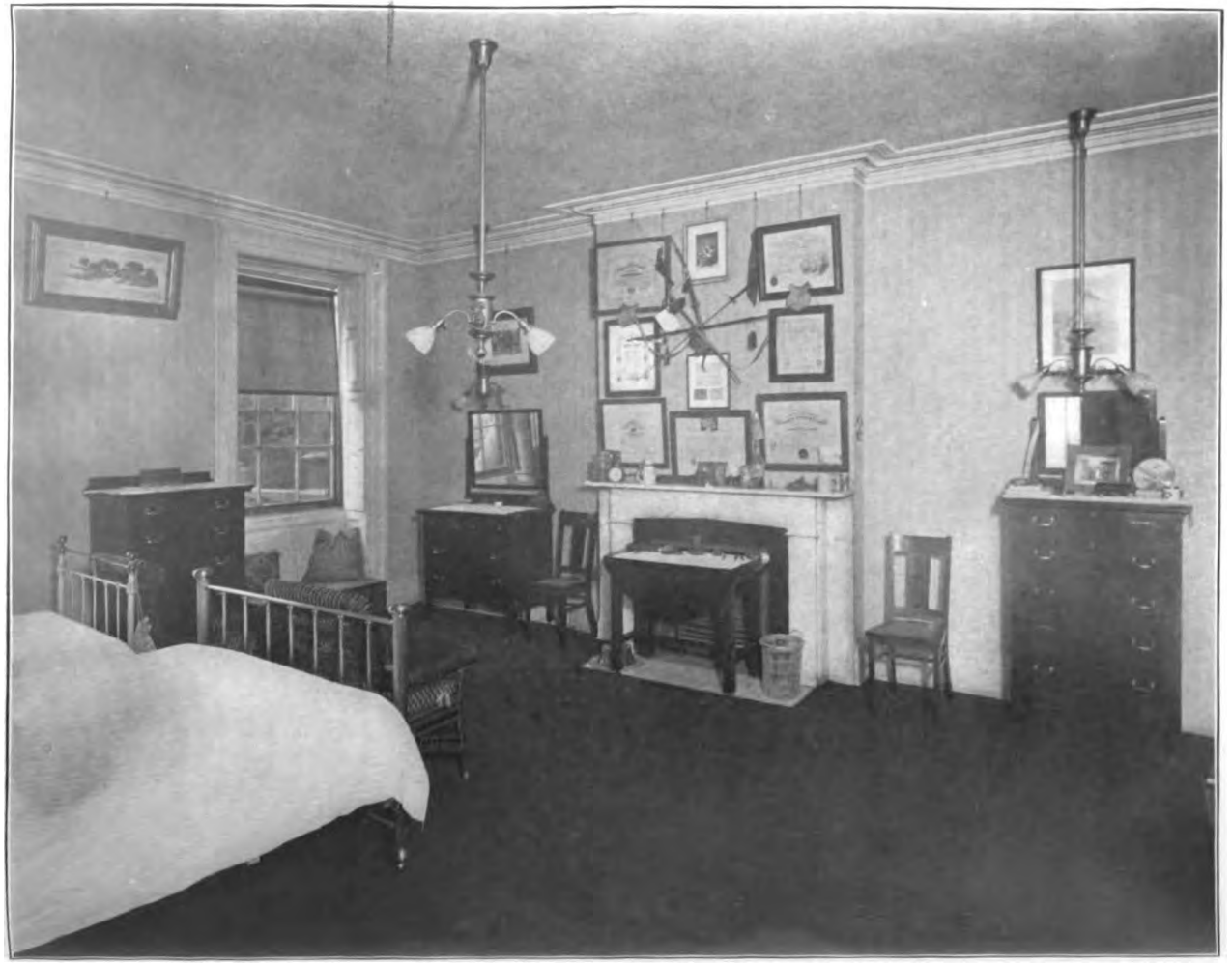

Technology Club of New York—One of the Bed Rooms

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GREAT INTEREST IN AËRONAUTICS

Among the committees appointed by the Alumni Council at the May meeting was a committee on aëronautics, consisting of Henry Howard ('89), chairman, Butler Ames ('96) and Henry Morss ('93).

The committee has been actively engaged in studying the matter, and the bare statement that the Institute might give instruction along these lines has been given wide publicity by the newspapers of the country. There is, however, nothing very definite to be said at the present time. Mr. Morss, who has been making a trip around the world, has been investigating the course in aëronautics at the University of Paris and at technical schools in Germany and England. The possibility of establishing such an option has been received with enthusiasm, and many students have indicated their desire to enroll. On his return from abroad President Maclaurin stated that he believed Technology should lead in the study of aërial navigation in the United States, and, closely following this, the Department of Architecture announced to its graduate students that the first problems of the year would be devoted to designs for aërodromes and the like.

Pittsburg secures Professor Mott

Professor William E. Mott, Associate Professor of Hydraulic Engineering at the Institute, has accepted a call to become the head of the Department of Civil Engineering in the School of Applied Science, Carnegie Technical Schools, Pittsburg, Pa., to take the place of Professor F. E. Foss, who has accepted a professorship at Cooper Union, New York. Professor Mott is a graduate of

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the Institute in civil engineering with the Class of '89. Following his graduation he was engaged in surveying, and after three years of practical experience he was called to Cornell University where he became instructor and later assistant professor of hydraulic engineering. He then returned to the Institute as assistant professor of hydraulic engineering, which position he held at the time of his departure.

Professor Mott is a member of the American Society of Civil Engineers, the Franklin Institute, and the Sigma Chi and Theta Xi Societies. He was assistant engineer for water supply, barge canal survey, for the State of New York in 1900. He has been very active in alumni and class matters, and is at the present time secretary of the Class of '89.

The Daily "Tech"

The first number of the daily *Tech* was issued at the opening of the school year, September 29, appearing at twelve o'clock instead of nine, as formerly. The undertaking is one of considerable proportions for the students to carry through, but the organization of the staff is such that a minimum of work falls on each man, and at times, when Institute work is most pressing, the editors are allowed relief of a week or a month, as may be necessary, understudies being worked into their places. The subscription price remains at $1.50 a year; the price per single issue is one cent. The paper is very creditable, although some improvements can well be made after the new organization has begun to run smoothly. An increasing number of alumni subscriptions is being received, and friends of the Institute who wish to keep posted in the new things that are going on every day cannot do better than send in their subscriptions. The *Tech* now has two offices, one above the other, at the Union.

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CHANGES DURING THE SUMMER

The improvements made at the Institute during the summer have been very small, but all of them were very much needed.

The library of the Civil Engineering Department in Engineering A has been enlarged to double its former size. This was necessary because of the large number of volumes and periodicals which have been added to the Library in the last few years. The Civil Engineering library at Technology is considered the most complete of its kind in the country.

The Electrical Department has perhaps received the most attention. The most important recent additions are two motor generator sets of 3½ kilowatts each and a 500 kilowatt alternating current machine driven by the new turbine engine in Engineering B. About twelve thousand dollars has been spent on the mechanical and electrical departments for new apparatus.

A new electrical power plant has been installed in the mechanical laboratories on Garrison Street for lighting the shops and the gymnasium. A 25 kilowatt direct connected set developing 230 volts, with a balancer set using the three-wire system, will give the two buildings abundant illumination. This new plant completes the illuminating of the Technology buildings by local power, the larger buildings having been hitherto lighted from the electrical laboratory plant, but the isolated position of the shops and gymnasium cut them off.

Three hundred new steel lockers have been installed in the new locker-rooms at the gymnasium on Garrison Street. The new locker-room was erected this summer over the old locker-room.

It is likely that arrangements will be made for an Alumni Song Fest at Huntington Hall some time during the winter, when the moving pictures of the stunts at Nantasket will be exhibited.

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LOCAL ASSOCIATIONS GETTING BUSY

Alumni Organizations preparing Attractive Programs for the Winter—The New York Club in a Strong Position—The Pittsburgh Association has a "Guarantor's Club."

THE TECHNOLOGY CLUB OF NEW YORK.—As this number of the REVIEW contains an article relating to our new club-house, the history of which since its opening in May constitutes our most important news item, little will be recorded here. An interesting club souvenir is a large framed photograph of the "Classes at Nahant, June, 1909," which now adorns the billiard-room. The smoker in honor of the Class of '09, originally planned for September 25, was held on October 15, as the Hudson-Fulton celebration and the illumination on the evening of September 25 claimed the attention of every one in New York. William Travers Jerome gave an address on "The Young Man in New York."

The smoker was well attended, and was the first of a series to be held on the second Saturday of every month during the year, excepting the first Saturday of February, which is the fixed date for our annual meeting and dinner. Heretofore invitations to the annual dinner have been extended to all Tech men in New York, but this year only members of the club and their guests will be admitted. Our membership is growing so rapidly, and the desirability of becoming a member is so evident, that we anticipate that this restriction will not relieve us from obtaining the largest banquet hall available to accommodate the number who will be present.

The sleeping apartments at the club-house are nearly all permanently rented, and a waiting list will be established. The demand for transient rooms has frequently exceeded the supply, but arrangements have been made for securing desirable rooms in the neighborhood. Attention is called to the new Advisory Council appointed by the board, and including R. H. Howes, W. B. Claflin

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and J. Parker Fiske, for the advantage of men coming to New York. Its principal object is to secure employment for Tech men, and to the Advisory Council should be addressed communications of men desiring employment and of men wishing to secure the services of Tech men or knowing of positions available to them. The Class of '03 is so far the banner class in holding class reunions and dinners at the club-house. R. B. Price, '94, has the record among the new men for long-distance non-resident membership.—*William H. King, Secretary, 17 Gramercy Park, New York.*

WASHINGTON SOCIETY OF THE MASSACHUSETTS INSTITUTE OF TECHNOLOGY.—The past summer has been the most active in the history of the society. The enthusiasm and good-fellowship at the reunion brought back by the score or so of members of the Washington society who attended served to keep the interest high at the weekly lunches throughout the early summer, while the return of men from vacation and the advent of new men to the city, both anxious to get in touch with things, has supplied sufficient variety and new material to keep it up since then. The annual summer outing of the society was held in June in the form of a moonlight boat-ride down the Potomac River. The affair was well attended, and enjoyed by all.

The program for the winter promises to be an exceptional one. Through the courtesy of the Washington Society of Engineers the monthly lectures before that society, usually of a nature of especial interest to the engineering profession, will be open to members of the Technology Society, and each will be preceded by an informal dinner at the University Club. The noonday lunches, which proved so successful during the summer, will be continued, and increased in number. At the annual dinner, held about midwinter, it is hoped that some of the pictures taken at the reunion can be exhibited and explained by eye-witnesses to those who were not so fortunate as to be present. The Washington society has challenged the Philadelphia society to a Boston pin match, to be rolled on some neutral alley, probably Baltimore, though the details are not arranged, and this will be made the occasion for a general jollification for both winners and losers. In fine, the com-

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ing winter promises to be the most successful in the history of the society.

The society wishes to call the attention of the alumni to its noonday lunches, held down town once or twice a week. Not only in promoting fellowship among the members and in serving as a convenient rendezvous and headquarters of the society, but also as a place of entertainment for visitors, these lunches have shown their peculiar fitness. As Washington is the location of the national government, and particularly of the executive departments, with their large technical bureaus, Tech men are constantly coming and going, and the Washington society wishes to do what it can for such men to make their stay pleasant, if not memorable. To this end it invites any Tech man, student or professor, who chances to be in Washington, to call upon the secretary, and make himself known, or drop him a card, giving city address and time of expected visit, that notices of times and places of lunches and other gatherings may be sent during such stay.—*A. M. Holcombe, Secretary, 1325 Vermont Ave., Washington, D.C.*

THE CINCINNATI M. I. T. CLUB.—The Cincinnati M. I. T. Club had a most delightful day's outing in June at the Island Canoe Club on the Little Miami River near Cincinnati. About forty persons were present, including the ladies.

Mr. Hans F. Schaefer ('05), secretary of the Cincinnati M. I. T. Club, was married on September 13 to Miss Martha Coffin Wilby. Mr. and Mrs. Schaefer are spending their honeymoon in Europe.

INLAND EMPIRE ASSOCIATION OF THE M. I. T.—The association is planning for a fall meeting in the very near future, at which plans will be made for the winter campaign. Membership in Spokane is hardly large enough to warrant excursions, picnics or the like during the summer, but you may be assured that we shall make up in activity what we lack in numbers, and we will interest every man within striking distance of Spokane.—*Philip Kennedy, Secretary, 01129 Hamilton Street, Spokane, Wash.*

THE NORTH-WESTERN ASSOCIATION OF THE M. I. T.—A thoroughly enjoyable outdoor meeting of the association was held

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at the Midlothian Country Club, about twenty miles south of Chicago, on September 10, through the courtesy of Mr. Fred W. Clark ('80). The Country Club was placed at the disposal of the Technology men for the entire day. A considerable number came out in the morning, played golf and had luncheon together, and a larger number arrived in the afternoon and became mixed up in a baseball game which was broken up partly because of darkness and partly because of personal feeling toward the umpire, Hagar ('93). At 7.30 in the evening a very enjoyable dinner was served in the main dining-room which was reserved for members of the association. Several of the men of the older classes were present, among whom were former Professor Dippold and former Librarian Clement Andrews. The weather was perfect, and the whole affair was successful and thoroughly enjoyed. Now that we have two members of the association on the Corporation of the Institute, Mr. Copeland and Mr. Robinson, and with the organization in a good healthy condition, we expect to make a long stride ahead during the coming winter. The tremendous success of the Reunion at Boston last June stirred up a greater interest than ever in the Institute. The officers of the association realize the importance of Chicago as a centre of Tech interest, and are already making plans to increase the usefulness of the association. One way in which our men can help is to influence the right kind of young men to attend the Institute. Our attention is called to the fact that among the undergraduates, in last year's catalogue, hailing from Chicago, there were only seven on the list, where a few years ago there was a very strong Chicago club at the Institute. There is no reason why Chicago should not have a very large representation at the Institute, and each member of the association should do his share toward seeing that this is accomplished.—*Ernest Woodyatt, Secretary, 1615 Ashland Block, Chicago, Ill.*

Technology Club of Southern California.—The club held a very delightful summer reunion on June 12. It took the form of a harbor excursion to the new harbor of San Pedro, and was personally conducted by Lieutenant Charles T. Leeds, U.S.A. (Tech '06). In the evening there was a banquet at the Naples

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Hotel. The affair was a very jolly one. Tech songs were sung, and we did our best to make up for our enforced absence from the festivities in Boston which were in everybody's mind. Echoes of the Reunion have reached us from time to time during the summer, and will undoubtedly help to increase interest in Technology affairs on the coast. The club is planning to have a very active winter campaign and do its share to assist in the general movement to advance the interests of Technology.—*H. A. Prime, Secretary, Office of City Engineer, Los Angeles, Cal.*

THE TECHNOLOGY CLUB, BOSTON.—The club-house was a busy and popular place during the Reunion, but, as is always the case, was rather quiet during the summer months. With the opening of the school year the club's activities have been renewed, and there is every prospect of a successful season. The new president, Mr. William Lyman Underwood, has outlined an unusually attractive program of smoke talks. As arrangements are not fully completed, only a partial list of speakers can be given. The first evening of the season will be a talk by Mr. Seth K. Humphrey on "A Trip to Messina and French Africa." A later talk will be given by Mr. Ernest Harold Baynes, whose subject is not definitely announced, but will probably be "The American Bison," an illustrated account of its habits and haunts, its destruction and the steps being taken to prevent its becoming extinct. Professor William T. Sedgwick will speak some time during the early part of the season on a subject as yet undecided, and Professor Harrison W. Smith will give an account of his recent trip to the South Sea Islands. The list of speakers for the latter part of the season will probably be given in the next number of the REVIEW.

Professor Charles W. Wing, formerly of the Chemical Department, has recently presented the club with a very handsome silver claret jug once belonging to Daniel Webster. A suitable case is to be made for the jug, which is at present on exhibition in the Common Room.—*Robert S. Williams, Secretary, 83 Newbury Street, Boston.*

PITTSBURG ASSOCIATION OF MASS. INST. OF TECH.—As it is once more possible to receive an answer to a telephone call other

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than "Mr. —— has just gone on his vacation," and we have again settled down to our customary grind, for which Pittsburg is famous, our prospects for a lively Technology year are very encouraging.

Last spring we originated an idea which has resulted in clearing the books of a comparatively large banquet deficit and in giving us some "free" gatherings and feeds. This plan has worked so successfully that we feel justified in dwelling somewhat on matters pecuniary and letting in other clubs on our methods. We organized a Guarantors' Club, membership in which was solicited among our more prosperous constituents. By subscribing any amount above $5, a member of the association becomes a guarantor of the association. Men of recent attendance at the Institute were utterly ignored in soliciting funds. Men with more monetary experience were invited to contribute according to their means, and we found it very seldom necessary to supplement the invitation with an appeal. There is now a balance on the satisfactory side of our ledger, and the amounts subscribed will give us a comfortable working capital. The proceeds from this fund are used in entertaining guests, providing a $5 dinner for $2.50, giving smokers without collections and taking care of other extraordinary expenses which the first-salary man might believe are not absolutely necessary.

Industrial activities in Pittsburg are fast regaining their normal conditions, and, if reports are not grossly unfounded, there will be more Tech men needed here than we had in 1907. The Westinghouse Company, from which we have drawn a large membership in the past, is again running on full time. The steel plants have more orders than can be filled.

We wish to take advantage of this opportunity to make a suggestion which occurred to us last winter. It appears that a majority of the alumni associations have their annual meetings in February. We have found it a fact that nothing we can do among ourselves engenders more interest in the organization and binds us more closely to Tech than to have a representative direct from the Institute visit us at least once a year and impart fresh enthusiasm. The Institute does not provide a fund for these journeys.

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We would not ask the guest to provide himself with transportation, and the smaller organizations cannot separately afford the luxury. It would be a simple matter for a number of associations to combine their efforts and finances in this direction, and successively entertain such a visitor at alumni centres along a predetermined route. The pleasure and benefits which we derived last winter by having with us at our annual dinner Dr. Maclaurin, Dr. Sedgwick and Mr. Litchfield have proven invaluable, and we trust that Washington, Chicago and Buffalo will second our motion for a repetition of the visit.—*Waldso Turner, Secretary-Treasurer, 1174 Frick Building Annex, Pittsburg, Pa.*

Technology Club of Milwaukee.—Our activities will hardly begin before November. As so many of the men are out of town, it will not be feasible to do anything before that time. The plans for the coming winter have not yet been made up, but there will be something doing in Tech affairs in Milwaukee, and the annual dinner will not be least of the events. One of our plans is to interest a number of important local manufacturers who will meet with us from time to time, and talk on such subjects as may be most interesting and instructive. These evenings will not be conducted along stereotyped lines, and, instead of having one or two guests, we expect to have several, so that the affair will have little formality, and will be almost entirely social. There are but few '09 men located in Milwaukee, but we propose to get hold of them and increase our membership by taking in every one within reach of the city.—*Charles J. McIntosh, Secretary, 704 Lake Avenue, Racine, Wis.*

The Detroit Alumni Association.—We held our summer meeting September 11, nineteen men being present, as follows: C. Lang ('04), H. T. Winchester ('03), M. Gorham ('93), G. Whitney ('87), G. V. Pottle ('01), W. R. Kales ('92), H. T. Graber ('03), J. P. Buckley ('93), J. H. Dennedy ('08), W. R. Wood ('97), F. W. Fuger ('91), W. R. Strickland ('98), H. G. King ('75), J. S. Rogers ('91), F. C. Baldwin ('90), Hammond, Burroughs, Choate and Corse. Although not as largely attended as our other two meetings, it was a highly exciting and enthusiastic one, and six new faces were

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seen. We took lunch at the Detroit Boat Club, and then left on the launch for the Light-house Inn. As there were just men enough to furnish two baseball nines and an umpire, a game was organized between teams captained by Gorham and Kales, in which Gorham's team was victorious. The relay race was won by Gorham's team. It was also decided that the broad jump should be awarded to the invincible Gorhams, although the judges received a few bricks by way of mild criticism from the other side. Then Winchester walked around with a big rock on his shoulder, so we put the shot and Burroughs won. The dinner that evening was a memorable one, and afterward we sang Tech songs, talked about the Reunion and the Detroit Association. Although this is one of the youngest associations on the list, we propose that it shall be heard from frequently and favorably in the future. Our winter meeting will probably be held February 22 at the University Club. We have received a copy of "Concerning the Massachusetts Institute of Technology," and we will see that the principal of the high school has an opportunity to read it. You may be interested to know that the Technology members of the University Club have presented the club with some library chairs for their new club-house. Gorham is one of the Board of Governors of the club, and Whitney is on the Library Committee.—*Granger Whitney, Secretary, Detroit, Mich.*

New Head of Military Instruction

Major Fred Wheeler, who has held the post of professor of military tactics at the Institute, has been forced to resign because of ill-health, due to serious wounds contracted during service in the Philippine War.

His successor will be Captain A. T. Easton, U.S.A., retired. Captain Easton is a native of Pennsylvania. He was captain in the 14th Pennsylvania Infantry until 1899, when he was appointed first lieutenant of volunteers. He became first lieutenant of the 29th Infantry in 1901. He is forty-one years old.

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TECH MEN IN THE PUBLIC EYE

EDWARD D. ADAMS ('65–66), has recently been presented with the Crown Order of the Second Class by Emperor William of Germany, in recognition of his efficient services as representative of the Bank of Germany in America. Mr. Adams was born in Boston, and prepared for college at Norwich University, Vermont. He attended the Institute for two years, after which he travelled extensively in Europe. On his return he went into the banking business, and was identified with the management and re-organization of several railways. In 1878 he became a member of the banking firm of Winslow, Lanier & Co., of New York, from which he resigned in 1893 to become the representative of the Bank of Germany. His address is 71 Broadway, New York city. Mr. Adams is a member of numerous scientific societies and is a director of the Metropolitan Museum of Art.

KING Y. KWONG ('80–81), has had a very successful career in China, where he has been an influential factor in the greater development of railway transportation. As chief engineer of the Canton-Hankow Railway, his accomplishment has been so remarkable that he has attracted much notice from the American and English press. Mr. Kwong was educated in America, first at Williston Seminary and then at the Massachusetts Institute of Technology. He returned to China in 1881, and went into railroad work with Mr. C. W. Kinder, engineer-in-chief of the Imperial Chinese railways. These were the pioneer days of railroads in China, and it is interesting to know that Mr. Kwong drove the first spike on the Imperial line in China. He was connected with several railways in the north of China, and came to Canton to take charge of the southern section of the big trunk line to Hankow in 1907. The record Mr Kwong has made is a distinct credit to the land of his education. His scientific and progressive spirit has overcome many of the obstacles with which his predecessors were

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almost overwhelmingly hampered, and it is largely due to his persistence and tact that the new era of railroad development in China has been made possible.

SAMUEL M. FELTON ('73), president of the Mexican Central Railroad, is to head the re-organization of the Chicago Great Western Railway. Mr. Felton was formerly president of the Chicago & Alton Railway.

MAJOR-GENERAL JOHN F. WESTON ('81–84), now stationed at San Francisco, has been a unique figure in the military history of the time. Those of our readers who knew Weston will be interested in some extracts from a recent article on his career in the *National Magazine:*—

General Weston is one of the most widely known and popular officers in the United States Army, and his friends are legion, both in military and civil circles. He is among the few remaining examples of the "old army," and is perhaps the only officer of distinction now in active service who links the memories of the Civil War with the military spirit of a later generation. . . . While a mere youth, he participated in many of the great battles of the Rebellion,—from 1861 to the tragic close at Appomattox,—and over thirty years afterwards, as a grizzled veteran, was engaged in the Spanish-American War. In the interval between the two struggles he took part in many of the Indian wars and outbreaks that marked that troubled period. . . . When the Civil War broke out, though only a boy of sixteen, he eagerly enlisted in the Fourth Kentucky Cavalry as a private. Wherever this renowned regiment went, it was always in the forefront of the fight. During Sherman's march to the sea the Kentucky brigades of cavalry were always at the head of the column, and had many a hard-contested battle with Wheeler and Forrest. He participated in the action at Lebanon, Tenn., where he had a horse shot from under him, but mounted another and continued the pursuit of General Morgan's command. He was in the Perryville campaign, and subsequently in the battles and campaigns of Lavergne, Brentwood, Spring Hill, Franklin, Triune, Shelbyville, Chickamauga, Caperton's Landing, Atlanta campaign, and Resaca, where he was complimented for gallantry on the field. . . . He was in the Nashville campaign, Centreville, Montgomery, and Wetumpka, and was awarded a medal of honor for clever and daring conduct at the latter place. It was while in command of a battalion ordered to destroy steamboats loaded with supplies for the enemy that he was stopped by an unfordable river, but with five of his men he swam the

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river, captured two leaky canoes and ferried his men across, encountered and defeated a force of the enemy, and on reaching Wetumpka found the boats anchored in midstream. He lured the captain ashore, and with the boat thus secured reached the steamers and demanded and received their surrender. . . . Lieutenant Weston was in the campaign against the Cheyennes in the Indian Territory under Sheridan, whom he admired immensely and considered the greatest cavalry commander the world ever saw, not even excepting Murat. . . . Before the completion of the railroads to the Pacific, multitudes of immigrants and trains had to be guarded across the plains where the Cheyennes and Comanches were tomahawking and murdering the travellers in great numbers. The torch and scalping knife were in evidence everywhere. It was on this strenuous and dangerous duty that Lieutenant Weston was engaged, and in which he had many close calls. . . . He was in the Big Horn fight in Montana, was in the Yellowstone expedition, and was complimented personally and officially by Custer for services in the relief of that ill-starred commander. It was in the spring of 1873 when he went with Custer's expedition to guard the surveyors on the Northern Pacific Railroad west of the Missouri River. The details of that expedition have been told and retold. There was the time when Custer, out in advance of the rest of the expedition, came near being surprised by the Indians. Surrounded by the hostiles, and with his men in blue being picked off one by one by the circling, hideously painted redskins, he saw galloping to his relief and saving him from massacre a straggling troop of cavalrymen, at whose head rode a sturdy figure, with a sabre wildly waving over his head and a big Colt gun barking savagely at the Indians. Custer could not but admire that coming figure, and, turning to an officer near him, said, "I'll bet ten to one that is Weston and his troop in the lead." But the general found no takers, for all believed that, if any one came through that horde of encircling savages, it would be "Dare-devil" Jack Weston.

Mathew C. Brush ('01), recently manager of the Boston Suburban Electric Company, has been appointed general manager of the Buffalo & Lake Erie Railway Traction Company and Jamestown, Chautuaqua & Lake Erie Railway, and their subsidiary railway and water lines, with headquarters at Buffalo. Mr. Brush is only thirty-five years old, and is one of the best-known street railwaymen in the East. He was graduated from the Institute in 1901, and after a short experience in the West he became connected with the Boston Suburban and Electric Company as assistant to the

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president, soon arriving at the post of general manager. The companies of which he will have charge operate 200 miles of private right of way electric lines, 50 miles of steam road and a fleet of steamboats on Lake Chautauqua.

FREDERICK L. BISHOP ('98), formerly professor of physics at the Bradley Polytechnic Institute of Peoria, Ill., has been appointed to the chair of physics in the college of the University of Pittsburg. Dr. Bishop received the degree of Bachelor of Science from the Massachusetts Institute of Technology, and was afterward graduate student in physics in the University of Chicago, where he received the degree of Doctor of Philosophy. For the past ten years he has been head of the Department of Physics at the Bradley Polytechnic Institute, Peoria, Ill., an affiliated department of the University of Chicago. Dr. Bishop was a student of Dr. A. A. Michelson, head of the Department of Physics, who received the Nobel prize of $40,000, in 1907, for his discoveries on the nature of light waves. Dr. Bishop has published a number of articles in the *Proceedings of the American Academy of Arts and Sciences*, *American Chemical Journal* and the *Physical Review*, and also received a grant from the Rumford Fund with which to carry on researches in thermal conductivity.

A Host of New Associate Members

That the advances recently made by the Alumni Association are appreciated among former students is shown by the startling array of associate members that have been taken in during the past year. The list is published elsewhere in this issue. Because of such spontaneous support as this and the tremendously increased interest of alumni associations all over the country, the alumni organization is unusually well equipped to do effective work. It is perhaps in as strong a position as any college alumni association in the country, and the requests for associate membership now pouring in makes the outlook for the future most encouraging.

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AMONG THE UNDERGRADUATES

A Large and Enthusiastic Class of Freshmen—Great Promise of Undergraduate Activities this Season—Field Day November 5.

The undergraduate year starts out with unusual promise because of the large and apparently enthusiastic class which has just entered and also because of the advances which were made in all departments last year.

President Maclaurin addressed the freshmen at the opening of the term. Among other things he said:—

"Tech is essentially a workshop with eminent men over it who know what the world demands. I hope you will take the full advantage of the knowledge of your instructors. In preparatory schools there is a tendency to consider the instructor as a natural enemy where attempts to thwart and fool him are considered legitimate. This should cease to exist. A certain measure of trust is essential in all walks of life, especially in those being educated. You will find included in the curriculum a large number of studies which have no direct bearing on your professional work, such as language, history and economics. Many may think these useless, but the man who is wise will keep these views to himself and bow to the superior knowledge of men of the world. Above all, I want you to be intelligent men who can take an active part in the problems going on around you."

Never has a freshman class received more attention from upper class men than 1913. The reception by the Young Men's Christian Association and the dinner to freshmen given by *The Tech* had a much larger attendance than ever before, and the freshmen show unusually good spirit.

All undergraduate activities are moving along satisfactorily.

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The Show management is in excellent hands as is also the *Technique*. The expanding of *The Tech* into a daily is a long step in advance, and will be of great help to all undergraduate interests.

Perhaps nothing was ever attempted by the students that has attracted such universal commendation as the book "Concerning the Massachusetts Institute of Technology." Undergraduates and Faculty are loud in their praise of this book, and the best of it is that it is fully deserved.

Announcement was made recently that James R. Francis, who has so successfully coached the last five Tech Shows, has been again engaged for next year.

There seems to be much greater interest in musical clubs this year than ever has been exhibited at Technology. The manager is fully alive to the possibilities, and is attempting to make arrangements for a tour of the West with the Glee and Mandolin Clubs. The success of the venture will of course depend largely upon standing of the clubs. From all appearances, however, musical talent is far in excess of anything seen here before.

During the first few days of the term there is always some small clash between the freshmen and sophomores. It is customary, after the dinner given to the new class by *The Tech*, to march to Rogers steps and cheer. This year some twenty-five or fifty sophomores tried to hold the steps, but those who were captured were quickly hustled to the Public Garden and received a ducking. It was all given and taken in good spirit, although, of course, the newspapers made as much out of it as possible. Other than this the relations of the two classes have been friendly. The real struggle between the two classes occurs on Field Day, November 5, when all differences will be settled. Last year the freshmen won the event, but the activity of the sophomores this year indicates that if the freshmen win it, they will have to put forth extraordinary efforts.

The Institute committee has begun its meetings, and has appointed members of the Union committee, including the house committee, entertainment committee, and dining-room committee. The responsibility of running the dining-room this year is placed in the hands of Maurice Scharff ('09), president's assistant, who works in co-operation with the regular dining-room committee. A radical

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change has been the installation of a complete bakery, with model electric ovens in charge of an experienced baker and pastry cook.

The Friday night entertainments of the Union begun the last of October.

A Wireless Station Probable

The formation of a Wireless Society last year developed the fact that a large number of undergraduates were interested amateurs. Last year one of the members installed a complete wireless station in his fraternity house on Newbury Street with a sending radius of sixty miles and a receiving capacity of eight hundred miles.

This year the society is very much stronger, and Professor Cross and Dean Burton have extended friendly hands. Announcement is made that the society will soon be able to errect a powerful wireless plant at the Institute. The object of the society is to interest the students and Faculty in the advancement of wireless telegraphy, and for suppressing amateur interference with government and other messages. The co-operation of the government officials has been secured, and the authorities at the Charlestown Navy Yard say that amateur interference has fallen off fifty per cent. during the summer, due to the efforts of the society.

Who Lost This?

July last a watch chain and fob was found on Riverside Drive, New York. Attached to the chain was a seal marked with two initials. The chain evidently belongs to a Tech man, as one of the reunion medals was attached to it. Will the person who lost it please communicate with THE TECHNOLOGY REVIEW, indicating the initials on the seal by way of identification?

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NEWS FROM THE DEPARTMENTS

Many New Members of Instructing Staff—Practical Work of the Mechanical Engineering Department—A New Departure in the Study of English

DEPARTMENT OF MECHANICAL ENGINEERING.—Of the twenty-seven theses performed during the last school year by the forty-six members of the graduating class in Mechanical Engineering, ten had for their object an industrial problem that had actually arisen in the business of some firm, and in most of these cases the firm itself furnished, at its own expense, most of the material used, or gave facilities and set up apparatus for making the tests. Six were intended to solve industrial problems of general interest in engineering practice, while eight were concerned with some stage of an investigation which, when completed, would serve to solve important industrial problems. The remaining three were upon questions of less general interest, though having an industrial bearing. Among those of the first class may be mentioned:—

(*a*) Lift and discharge of safety-valves, a question regarding which there exists much difference of opinion among manufacturers and users.

(*b*) Tests of reinforced concrete beams of unusual depth, for the purpose of securing evidence concerning a difference of opinion between different engineers regarding the proper method of erecting certain important constructions of the present day.

(*c*) Service test of the steamer "Harvard," for power, speed and economy.

(*d*) Test of a 750 kw. Allis-Chalmers Parsons turbine, this being a case where the results were of importance to the firm using the turbine.

(*e*) Investigation of the behavior of locomotive driving springs under repeated stress, this being one phase of the problem regarding

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the difficulties experienced by railroads and locomotive works because of the breakage of springs. Moreover, three firms have furnished materials and facilities to aid us in this investigation.

Of the second class may be mentioned:—

(*a*) An investigation of the effect of water vapor in the explosive mixture of an oil engine.

(*b*) Investigation of the ideal marine engine for horse power and fuel consumption at various speeds.

Of the third class may be mentioned:—

(*a*) Investigation of the vibrations of an inertia governor.

(*b*) Investigations of running balance.

(*c*) Investigations of the whirling of shafts.

The five hundred kw. steam turbine was used during the second term of the last school year, for the regular laboratory work, and some lines of investigation were commenced. A five hundred kw. 60 cycle 2,300 volt generator is now being substituted for the water brake with which the turbine was originally equipped.

Investigations of outside steam turbines have been the rule for many years, and also that of many questions important for the problem of the steam turbine, one of the most important being the study of the steam and friction losses in nozzles, carried on during the last school year by Mr. Sampson, an advanced student.

A twelve horse-power Gray gasoline engine has been presented to the Institute by the makers.

Instructor Heuter has gone to Germany to study for two years.

Professor Peabody published, during the year, a revision of his steam and entropy tables, bringing them up to date with the latest investigations upon the properties of saturated and superheated steam.

Professor Lanza was elected a member of the Phi Beta Kappa Society (Beta of Virginia Chapter, located at the University of Virginia).

Department of Chemistry and Chemical Engineering.—The year opens with a considerable number of new junior members of the instructing staff. Dr. P. S. Burns has resigned his position as Instructor in Inorganic Chemistry after a long period of service,

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during which he has made many firm friends, who will wish him success in his technical work to which he is now devoting himself. His place is filled by Dr. Stroud Jordan, who is a graduate of the University of North Carolina, receiving also the degree of M.S. and later Ph.D. from the same university. He has also served as assistant at the University of North Carolina, as Professor of Chemistry and Physics at Gordon College and as Carnegie Research Assistant, under Dr. Charles Baskerville, at Chapel Hill, N.C., and in New York.

Mr. F. R. Kneeland has transferred his allegiance from analytical to organic chemistry, and has as his Assistant Mr. H. W. Paine (X. '09), who takes the position held last year by Mr. H. S. Chandler, who is just entering a technical position. Mr. Charles Field, 3d, who has been Instructor in Organic Chemistry, has resigned, and accepted an instructorship at the University of Idaho.

The other Assistants who have resigned to take up technical work are: A. B. Babcock, C. W. Clarke, C. H. Criswell, A. T. Hinckley, O. L. Peabody, W. H. Toppan and R. W. G. Wint. Mr. C. B. Nickerson has accepted an instructorship in Dalhousie University, Mr. P. S. Fiske has gone to Germany for study, having been awarded a fellowship from the Institute, and Mr. R. C. Tolman is devoting his time to research work in the Research Laboratory of Physical Chemistry. Mr. Tolman's position as instructor is filled by Dr. F. H. Heath, who is a graduate of New Hampshire College, and received his doctorate from Yale last June.

The new Assistants are as follows: B. H. St. John (V. '09), Theoretical Chemistry; J. J. Elbert (X. '09), Industrial Chemistry; H. P. Gurney (X. '08), Carl W. Gram (X. '09), J. A. Christie (V. '09), and C. L. Campbell (X. '09), Analytical Chemistry; L. J. D. Healy (V. '09) and E. L. Connolly (V. '09), Inorganic Chemistry; E. L. P. Treuthardt (V. '09), Food Analysis; R. W. Gilbert (XI. '09), Air and Water Analysis; and J. R. Nichols (V. '08), Technical Analysis. Miss E. B. Babcock (V. '09) is private assistant and secretary to Professor Talbot.

Professor F. H. Thorp is at present ill and confined to his house, to the great regret of his colleagues and friends. He reported

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having spent a pleasant vacation at his summer home in Vermont, but was taken ill soon after his return to Boston. Dr. Walker is at present carrying on the course of lectures in Industrial Chemistry, and Dr. Fay is taking charge of the laboratory instruction in Analytical Chemistry which has been under Dr. Thorp's care. It may be some weeks before Dr. Thorp is able to resume his duties.

Professor Noyes spent the summer in Spain, France and Germany, visiting friends in Leipsic, among other cities. Professor Talbot also spent a pleasant summer in England, Germany and France. He was present at the Five Hundredth Anniversary of the founding of the University of Leipsic, and attended several of the interesting ceremonies connected with that unusual occasion. Professor Walker's summer was a busy one in connection with his private practice and the Research Laboratory of Applied Chemistry, but he found opportunity to spend some time at his new summer home in Maine.

Professor Fay had special cause for rejoicing this summer in the advent of a daughter. His summer was divided between Cape Cod, Altoona, Pa., and Boston, and was in part devoted to expert work in chemical lines. Professor Gill reports a quiet and busy summer at his home in Randolph, N.H. His promotion to a full professorship coincided with the twenty-fifth anniversary of his graduation, and permitted a double celebration on his part. Drs. Sherrill, Moore and Pope have returned from the seashore with excellent coats of tan, which speak well for their enjoyment and health.

Mrs. Richards has spent a characteristically active summer, travelling to North Carolina, and then to the Pacific Coast, everywhere welcomed by a host of friends, and always in demand for talks and conferences.

During the vacation the sadly overcrowded laboratory of water and food analysis has been divided by a partition, to enable the two lines of work to be carried on under more favorable conditions, the two being nearly incompatible in a single room. While no space is gained by this change, it is hoped that there will be a distinct increase in efficiency. The number of students to be cared for

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has increased very rapidly of late, and more space is imperatively demanded for this branch of the departmental work, but is nowhere available.

In May Professor Talbot gave his annual informal dinner at the Union to the seniors in chemical engineering and chemistry. The speakers were Mr. C. W. Hubbard, Mr. C. A. Stone, Mr. F. G. Stantial, Dr. W. R. Whitney, Dr. D. R. Dewey and Professor H. W. Hayward. During the last part of last term Dr. Talbot arranged to have tea served in his office on one afternoon in each week for members of the instructing staff, in order to afford an informal meeting place for those whose laboratories are located in the separate buildings. These teas will probably be continued this year.

Professors Walker and Fay attended the meeting of the American Society for Testing Materials at Atlantic City in June, and both read important papers, which excited considerable discussion and comment. Professors Noyes, Talbot, Lewis, Bardwell, Blanchard, Sherrill and Mulliken attended the twentieth anniversary celebration at Clark University in September. Dr. Noyes received the honorary degree, LL.D. Professors Noyes, Talbot, Lewis and Mulliken were guests of the university and gave addresses.

Department of Architecture.—Andrew N. Rebori ('07), holder of the Institute's Travelling Fellowship in Architecture for 1907–08, returned to America recently after thirteen months' travel and study in Europe. On his visit to Professor F. W. Chandler, head of the Department of Architecture, he exhibited a large number of sketches made abroad, and also turned over to the department the two envois that he was required to make.

Rebori began his trip at London, and worked from there through Belgium and France into Italy, spending five months altogether at Paris and six in Rome. One of his envois was made at Paris, and consists of a measured drawing of "La Fontaine de Grenelle," rendered in ink. The other is an elevation of Raphael's Loggia in the Vatican at Rome, and is a remarkable piece of work, all the marbles and mosaics being faithfully represented in color. These

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drawings were placed on exhibition in the exhibition room of the department.

C. C. Clark ('10) during the summer won third prize in the competition of the *Brickbuilder Magazine* for a brick house, not to exceed $10,000 in cost. Third prize was $150.

Registration in the Architectural Department will run nearly twenty above the number for last year in the second, third, fourth and fifth years. Several classes are so large that they cannot be accommodated in the drawing-rooms. The work of the department has been facilitated this year by the appointment of an instructor to assist with the classes in perspective, working drawings and construction design.

R. J. Batchelder ('08), holder of the Travelling Fellowship for 1909–10, and Rinker Kibbey ('08), former Tech Show star, went abroad in August for a year's travel and study. Miss Mabel Babcock ('08) and Cecil F. Baker ('07) are also abroad. Edgar J. Williams ('08), winner of the American Academy of Rome scholarship in architecture, left in August to take up his three years' residence at the Academy in Rome.

Department of Civil Engineering.—William E. Mott ('89), Associate Professor of Hydraulics at the Institute since 1905, was recently appointed Professor of Engineering Practice at the Carnegie Technical Schools, Pittsburg. Professor Mott during his four years at the Institute established a well-deserved reputation as engineer and teacher, and his resignation is deeply regretted by his colleagues and students. He succeeds at Pittsburg another Tech man, Fred E. Foss ('89), who resigned to accept the appointment to the Chair of Civil Engineering at Cooper Union, New York.

The following graduates of the Class of 1909 have returned to the Institute as Assistants in Civil Engineering: R. L. Cary, W. W. Clifford, F. R. Faulkner, F. S. Lovewell, M. W. Rew, A. L. Shaw.

A recent letter received by Professor Spofford from Mr. Frank E. Hermanns ('99) gives an interesting account of the work and life of an American engineer in China. Upon his return to this coun-

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try Mr. Hermanns will address the civil engineering students upon the opportunities for the civil engineer in China.

DEPARTMENT OF ENGLISH.—The English Department tries this term a new experiment in freshman composition. The general testimony of college instructors everywhere is that the tendency of students to substitute memorizing for thinking is on the increase. The perfecting of pedagogic systems of fitting boys for examinations is acting to the disadvantage of original thought, so that it becomes constantly more and more difficult to induce students to take the initiative in any of their work. Instead of beginning the course in composition in the usual manner, the English Department will this year give the freshmen some weeks' drill in logical processes, the testing of the accuracy of their own reasoning and in general some training in that power of testing their own thought which is the foundation of all sound writing. A pamphlet has been prepared by Professor Bates, aided by other members of the department, and this will serve as a text-book for the first five weeks. The experiment is an interesting one, as it is an attempt to circumvent the unconscious ingenuity with which the freshman so generally contrives to evade all attempts to make his work a development of the power of correct thinking.

DEPARTMENT OF BIOLOGY.—H. O. Jenkins, A.B., Leland Stanford University, will return to the Institute, where he was a special student last year, as private assistant to Professors Sedgwick and Winslow, of the Biological Department. Mr. Jenkins has spent the summer as demonstrator and lecturer in charge of the travelling Sanitary Exhibit of the California State Board of Health.

DEPARTMENT OF PHYSICS.—In the Physical Department a research work has been carried on by Dr. Daniel F. Comstock and Mr. G. E. Batchelder.

In the field of magnetism a number of questions have arisen, and it is in an attempt to settle these points that these instructors have begun the research. Do all substances possess two kinds of magnetism? Is even iron diamagnetic? Research alone can throw light on the ultimate nature of magnetized bodies. That two dif-

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ferent kinds of magnetism exist in the same body is probably the reason why magnetic phenomena seem so complex and why at the present day so little is known of the subject. A theory has been advanced that the two magnetisms exist in all bodies, and is now being tried out. As there is no known way to separate the two types, if they exist, and study each separately, Dr. Comstock and Mr. Washburn have devised a method which gives promising results. In this method a piece of iron is saturated by a powerful electro-magnet, and then, when the ordinary magnetic property is thus practically paralyzed, its effects having reached a supposed maximum, experiments are made to detect any diamagnetic properties. Results have not yet been completely reviewed, but those now obtained seem to point towards the existence of the diamagnetism in iron. An extension of this theory would lead to the belief that in all substances the two kinds co-exist, and that a substance is magnetic or diamagnetic according as one or the other property predominates in it.

Department of Mining Engineering.—The mining laboratories in the basement of Rogers Building on Boylston Street have recently installed an Allis-Chalmers feeder and a Richards pulsator jig for experimentation in concentration of ores. The pulsator jig was invented by Professor Richards last year, and has proved a great advance. Economy and compactness are the distinguishing features of the professor's invention.

In the Mining Department the following changes in Assistants have been made for the year: F. Jaeger succeeds L. A. Dickinson, T. G. Chapman succeeds L. D. W. Bender, H. R. Batcheller succeeds C. A. Gibbons and E. T. Almy has been appointed.

Department of Electrical Engineering.—The appointment of Professor Pender as Professor of Theoretical and Applied Electricity in place of Professor Clifford, who resigned to go to Harvard University, has already been announced in The Technology Review for July. Since that time Associate Professor George C. Shaad has been appointed Professor of Electrical Engineering in charge of the department in the University of Kan-

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sas, and Mr. W. E. Wickenden has been elected Assistant Professor of Electrical Engineering to take up his work.

Professor Wickenden graduated from Dennison University, Ohio, from a course that was strong in mathematics and physics. He taught for a period at the Rochester Athenæum, and then went to the University of Wisconsin as a graduate student and assistant in the Department of Physics. He has now been on the staff of the Electrical Engineering Department at the University of Wisconsin for the past three years, and has made a reputation as an effective and magnetic teacher. He is author of a book on illumination and photometry which is now in press. Professor Wickenden takes up the work relating to electrical installations and allied matters, such as have heretofore been in the hands of Associate Professor Shaad. His interest in research and matters relating to the extension of the influence of the department is expected to add to the usefulness of the department in many ways.

Professor Lawrence, who has heretofore had charge of the electrical engineering laboratory work, remains in that work, but also takes charge of the lectures and recitations of the fourth-year men relating to alternating current machinery. Mr. Lyon will be his particular assistant in connection with the latter work, and will also have direction of the problem work for third and fourth year men.

Four of the assistants, Messrs. Edwards, Green, Hudson and Thomas, who were on the staff last year, have been promoted to instructorships. Mr. Hudson will be Professor Pender's particular assistant. Mr. Edwards, Mr. Green and Mr. Thomas are assigned to the electrical engineering laboratory work.

Mr. Slack, Technology ('08), who has been an assistant in the physics laboratory during the past year, has been appointed an assistant in the electrical engineering laboratory. Messrs. Glancy and Gray, Technology ('08), and Mr. Van Horn, Wisconsin ('08), have been appointed assistants in the electrical engineering and standardizing laboratories.

Professor Harrison W. Smith has returned from his trip around the world, in which he visited various of the islands of the Pacific, paying particular attention to the island of Java. His leave of

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absence for the second term of last year enabled him to make this trip with convenience, and he went supplied with photographic apparatus and means for gathering data and specimens of various kinds.

Professor Lawrence, after teaching in the summer school, spent the remainder of the summer in Europe.

RESEARCH LABORATORY OF PHYSICAL CHEMISTRY.—The research staff for this year consists of Professors A. A. Noyes and G. N. Lewis and eight research associates and assistants, three new men having joined it at the beginning of the present term: Dr. K. G. Falk, coming from Columbia University, Dr. W. D. Harkins from the University of Montana and Mr. F. L. Hunt (M. I. T. '09). Three new candidates have also entered upon work for the degree of Doctor of Philosophy: Mr. A. Edgar from Lehigh University, Mr. Merle Randall from the University of Missouri and Mr. F. F. Rupert from the University of Kansas.

Professor A. A. Noyes and Dr. W. C. Bray, of the staff of the Research Laboratory of Physical Chemistry, took during the summer a vacation tour in Europe, spending most of the time in Spain, Italy and Switzerland. The former also attended the exposition of dirigible balloons at Frankfort and the aëroplane competition during "aviation week" at Rheims.

DEPARTMENT OF MATHEMATICS.—Professor F. S. Woods, of the Mathematical Department, joint author with Professor Baily of the new text-book of mathematics, has been granted a year's leave of absence, which he will spend in mathematical work in Germany and Paris. Dr. N. J. Lennes has been appointed Instructor for the year, and Dr. C. L. E. Moore has been promoted to the rank of Assistant Professor. Professor Harry Tyler has accepted the chairmanship of the national committee on the teaching of mathematics in technical colleges and departments. It is hoped that the work of this committee, when correlated with that of similar committees in other countries, will prove of much value and importance. Reports are expected to be presented at the International Mathematical Congress at Cambridge, England, in 1912.

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DEPARTMENT OF MECHANIC ARTS.—The room vacated by the Technology Union has been given to the Department of Mechanic Arts for an enlargement of the Filing and Machine-tool Laboratories. In April last the apparatus for instruction in pipe-fitting was transferred from the machine-tool Laboratory, and at the same time an equipment of pneumatic hammers, drills and riveting tools, donated to the Department of Naval Architecture by the Chicago Pneumatic Tool Company was installed with a 9″ x 9″ air compressor loaned by the same company. The entire equipment, with its air storage tanks and piping, was used for instruction during the latter portion of last year, and instruction in the use of pneumatic tools is now given to all classes in connection with the work in chipping and filing.

A new electric lighting plant is now nearly installed, which will furnish current for lighting and power for the Gymnasium and the mechanical laboratories. A Sturtevant 25 kw. direct connected unit, with a multipolar compound wound generator, will supply current at 230 volts on a two-wire system. A balancer set made by the Crocker Wheeler Company enables the lighting current of 115 volts to be obtained on a three-wire system, the extreme wires being used for power. The exhaust steam is used for heating.

The new lighting with its special fixtures will be very superior to the gas light formerly employed in the mechanical laboratories.

Instruction in foundry work is now required in the senior year of the courses in mechanical engineering and naval architecture, and to that end the foundry equipment has been improved and a new course has been planned. It is hoped also to soon install a new melting plant.

There have been many changes in the instructing staff: Mr. Theodore B. Merrick, now over seventy-five years of age, was retired on October 1 by the Carnegie Foundation, after twenty-five years of successful service as instructor in wood-work and foundry-work.

Mr. Albert L. Moulton, assistant in wood-work and foundry-work, resigned to accept a position at the Mechanic Arts High

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School, Boston. Mr. Alfred R. Hunter, assistant in chipping and filing, resigned to accept a promising business opening. Mr. Ernest Curley, assistant in machine-tool work, has also resigned.

The following new appointments have been made:—

Mr. Jeremiah F. O'Neil as instructor in wood-work and foundry-work, Mr. Arthur B. English as assistant in machine-tool work, and Mr. Samuel W. Rounds as assistant in wood-work and foundry-work.

Mr. O'Neil has been connected with manual work and manual training for the last twenty-three years. After graduating from the Boston public grammar schools, he took charge of the tool-room of the M. I. T. mechanical laboratories, where he served successfully for four years, obtaining considerable experience in machine work, and becoming so interested that he later served his time as a machinist and then worked as a journeyman several years. During this period of twelve years he employed his evenings in study and in attending evening schools in drawing and high-school studies. In 1889 he accepted a position as instructor in manual training and laboratory assistant in physics at the St. Paul's School of Concord, N.H., where he remained four years, resigning to spend a year in study at the Institute, where he took up advanced work in mechanic arts, drawing, descriptive geometry and English. On completion of this course he served two years as assistant in wood-work and foundry-work at the Institute, resigning to accept the position of sub-master in manual training at the Malden High School, which he has successfully filled during the last five years. Mr. O'Neil has entered with enthusiasm into his chosen work, and has utilized his summer vacation in study at summer schools and in obtaining practical experience in pattern and foundry-work. He is a member of the Class of 1902, and of several teachers' associations, an associate member of the M. I. T. Alumni Association, and is secretary of the Boston Manual Training Club.

Mr. English served his time as a machinist at the Trimount Manufacturing Company, Roxbury, Mass., and has worked as a journeyman machinist ten years, working as a die-maker for a large part of the time. He is very much interested in manual train-

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ing work, and comes with the purpose of obtaining experience in teaching.

Mr. Rounds is a graduate of the Roxbury Grammar School, and has also taken courses in drawing and mathematics in the International Correspondence School. He has worked as a journeyman pattern-worker, and has had several years' experience in machine shops and in the foundry. He has also done considerable mechanical drawing in connection with his other work. He is very much interested in manual training work, and comes with the purpose of obtaining experience in teaching.

Mr. R. H. Smith, instructor in machine-tool work, has for several years been engaged in the preparation of a text-book on machine work, prepared for students in technical manual training, and trade schools and for the apprentice. It is to be published in three parts, the first two of which are now in press.

Part I., Elements of Machine Work, is devoted to hand-work, and covers laying out work, chipping and filing, scraping, hardening and tempering, pipe-fitting, soldering and brazing.

Part II., Principles of Machine Work, covers machine work such as lathe-work, chuckering, cylindrical grinding and drilling.

Part III., Advanced Machine Work, covers advanced lathe-work, boring, planing, milling and gear-cutting.

Publication of "Review" Delayed

It is the intention of the Board of Publication to issue the REVIEW during the first week of the month in which it is due, and on the first day, if possible. The July number was necessarily delayed because of the unusual amount of time required to prepare it. The October REVIEW has been purposely delayed in order to get the news of the Institute which our readers want to see. Class and association secretaries will, however, please arrange to send in their manuscript for the January REVIEW not later than the 10th of December. If this matter can conveniently be sent in earlier, it will be appreciated.

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ACTIVITIES OF THE EDUCATIONAL STAFF

Professor Richards has returned from the West, where he has spent the summer in the mills of Colorado, Arizona, Nevada, Idaho, Montana and Utah. Dr. Richards, who is the oldest Technology graduate, also, through the efficient aid of E. S. Bardwell, E. G. Goodwin and C. E. Locke, completed the third and fourth volumes of his work "Ore Dressing," on which he is considered an authority throughout the world. The first two volumes of this book were published in 1903, and contained all the information on the subject then at hand. Six years of experiment and research of Professor Richards and other eminent scientists have sufficed to fill two more large books. The work is a scientific treatise and too lengthy for use as a text-book, so the author has prepared a condensation of all four volumes, which will be off the press in a few weeks, to be used by Technology and other technical institutions.

Professor Davis R. Dewey has been engaged during the summer in the preparation of two reports for the National Monetary Commission, entitled "The Second Bank of the United States" and "Banking Practice and Real Estate Charters."

The Director of the Census has appointed Professor C. W. Doten a special agent of the Census Bureau, in the Department of Economics, to co-operate with a staff of experts drawn largely from the college list. Professor Doten has been in Washington a large part of the summer, engaged on this work. Professor Doten is secretary of the American Statistical Association. He is also a specialist in railroad economics and accounting, labor problems, factory systematizing and social investigation.

At the meeting of the Alumni Association of the University of Virginia, Professor Gaetano Lanza, who is an alumnus of that institution, spoke in behalf of the New England alumni. Professor Lanza also attended the meetings of the American Society for Testing Materials in June. Professor Lanza and Lawrence S. Smith,

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of the Institute, will present a paper at the New York meeting of the American Society of Mechanical Engineers, in November, on "Reinforced Concrete Beams."

At the meeting of the American Society for Testing Materials at Atlantic City, this summer, Professor William H. Walker read a paper on the testing of galvanized and other zinc-coated metals.

Among those who addressed the Boston section of Mechanical Engineers at a meeting held June 11 was Professor E. T. Miller, of the Mechanical Engineering Department.

Professor W. H. Niles, who has been for many years president of the Lawrence Scientific School Association, resigned his office at the meeting in June. Professor Niles has been in poor health since the death of Mrs. Niles, but is now very much improved, and is able to be at the Institute every day.

Among the speakers at the twentieth anniversary of the founding of Clark University, Worcester, were Professor Percival Lowell, non-resident professor of astronomy; Professor H. P. Talbot, who spoke on the co-relation of the chemical courses in the secondary schools and colleges; Professor Arthur A. Noyes, who informally discussed chemistry as a study; Professor G. N. Lewis, on the free energy of chemical reaction; and Professor S. P. Mulliken.

Professor Thomas A. Jaggar spent the summer in studying volcanoes in the Hawaiian Islands and Japan. During his stay in Honolulu he delivered an address which stirred up much interest in the work that may be accomplished by geophysical laboratories co-operating with each other. Professor R. A. Daly also spent part of the summer at Hawaii, examining the volcano Kalauei, which was in active operation.

Mrs. Ellen H. Richards, instructor in sanitary chemistry, was the principal speaker before the department of elementary education of the National Education Association, held at Denver in July, on the need of domestic science and the household arts in the elementary schools. Mrs. Richards' activities during the summer were very numerous. Early in the summer she was a member of the faculty at the summer session at the University of California, Berkeley, Cal. Mrs. Richards is president of the newly formed

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American Home Economics Association. The object of the association is to improve the condition of living in homes throughout the country. It has a membership of 800.

Professor W. T. Sedgwick has been at Seal Harbor, Me., preparing for a very active year. He will speak at the conference of health officers to be held at Rochester, N.Y., the middle of November. Professor Sedgwick has been engaged to contribute to a new department, which is about to be inaugurated by the *World's Work*, which will be devoted exclusively to health matters.

Professor C.-E. A. Winslow has been appointed a member of the committee of the Boston Chamber of Commerce, on the prevention of disease and accidents, and has been invited by the chairman of the Boston School Committee to serve as a special advisory committee on the department of hygiene of the Boston public schools.

Professor S. C. Prescott lectured on milk supply at Dublin, N.H., in July, under the auspices of the Dublin Chemical and Pathological Laboratory.

Professor Moore was engaged during the summer upon his regular work of bridge inspection for the Massachusetts Railroad Commission; Professors Breed and Hosmer, upon the preliminary investigations of a proposed hydraulic power plant in Vermont; Mr. Bradbury, upon bridge inspection for the Boston Elevated Railroad and in assisting Mr. Sanford Thompson ('89) in the preparation of the new edition of "Concrete, Plain and Reinforced"; and Mr. Howard, upon triangulation work connected with the town boundary survey of Massachusetts.

Professor Russell has recently issued a book entitled "A Text Book on Hydraulics." This book is intended primarily for undergraduate students of engineering, and not as a treatise for the practising engineer, but the concise and logical manner of developing and setting forth the fundamental theories will make it valuable for such readers also. It fills a long-felt want at the Institute for a suitable text-book on the theory of hydraulics. In addition to his work upon this book Professor Russell has been engaged during the summer upon an investigation of freight subways for Boston.

Professor Robbins has spent considerable time during the sum-

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mer in investigating suitable sites for a summer camp of surveying. The necessity for giving all the instruction in field work during the summer becomes greater each year, and no one thing would strengthen the department more than the establishment of a permanent summer camp.

Professor Mulliken has spent a large part of his summer in the correcting of proofs of the third volume of his work on the systematic identification of organic compounds, which will soon be issued, and will represent the result of a very large amount of careful work. Professor Woodman has been busy with problems of food chemistry, Professor Blanchard with some research in inorganic chemistry and Professor Bardwell, in conjunction with Dr. Spear, in the revision of the laboratory manual for first-year chemistry.

Professor Harold Pender of the Department of Electrical Engineering has decided to write a book on transmission lines after considering the matter for some time. He will commence work on the treatise this fall, but does not expect to give it to the public in less than two years. The work will take up the discussion of design and construction, and will be approximately 250 pages in length. The book, when completed, will fill a unique space in the ranks of professional literature, as the only present work on the subject is very incomplete and antiquated. As a text-book and reference volume for practising and consulting engineers, the book will be eagerly awaited. Professor Pender came to the Institute last June from the New York Illuminating Commission. He is chiefly noted for his research work at the Carnegie Institute and at Sorbonne University, Paris, in magnetic fields.

Professor H. W. Hayward has carried on several concrete tests in the mechanical laboratories this summer, the results of which are not yet known. The Technology laboratory has received the majority of the government concrete tests previously carried out at the Watertown Arsenal, and some of this work is now in progress. During the ensuing year advanced students will do considerable of this work.

Professor Arlo Bates, head of the English Department, has completed a new pamphlet on English composition which will be used

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during the first five weeks by the freshman class this year. The pamphlet will precede the "Principles of English Composition" by Professor Pearson of the Institute, which has been used for several years, the latter now being used during the last part of the year.

Professor Cecil H. Peabody, of the Naval Architecture Department, has completed the revision of his new set of steam tables, which will be used in classes this year. The tables are a set of involved mathematical computations relating to steam expansion and power, and are expected to displace the Renault tables which have been used for a number of years. The latter have been proved to be inaccurate both by the Peabody tables and those compiled recently by Professor H. N. Davis, of Harvard. Professor Peabody and Professor Davis worked entirely independently, but a comparison of the two works shows them to be practically the same, proving the mistakes in the old tables.

Professor S. C. Prescott, of the Department of Biology, has been appointed milk inspector of the town of Belmont, and has been elected chairman of the committee on commercial training of the board of trustees of the Sanborn Seminary, Kingston, N.H. He visited at the Seattle fair, where he studied biological and sanitary exhibits.

Professor C.-E. A. Winslow, of the same department, has been granted a leave of absence for the months of January–March, 1910, to accept an appointment as assistant professor of bacteriology at the University of Chicago for the winter term, when he will take the place of Professor E. O. Jordan (M. I. T. '90), who goes to Europe. Professor Winslow has recently published a treatise on the "Sanitary Significance of Bacteria in Sewer Air."

Professor Charles B. Breed, author, in conjunction with Professor George L. Hosmer, of the two-volume work, "The Principles and Practice of Surveying," is engaged on the preparation, in the surveying and railroad engineering section, of the new "Engineers' Handbook," which is to be published in a year under the editor-in-chiefship of Professor Mansfield Merriman, formerly head of the Department of Civil Engineering at Lehigh University.

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The new work is expected to replace the handbooks now in general use, and its authors compose some of the most prominent engineers in the country.

Professor H. W. Hayward has carried on several concrete tests in the mechanical laboratories this summer, the results of which are not yet known. The Technology laboratory has received the majority of the government concrete tests previously carried out at the Watertown Arsenal, and some of this work is now in progress. During the ensuing year advanced students will do considerable of this work.

Professor Charles M. Spofford, of the Department of Civil Engineering, has in preparation a book on the theory of structures which will be published next summer. The work is a 400-page affair, comprising the notes which the professor has gained in his wide professional experience and which are used in his lectures. The book will be essentially a text-book, but will be a handy guide for the man in practice. Professor Spofford will follow the first volume with a second on higher structures, making a book for graduate students in civil engineering.

Professor Shaad leaves the Institute

Professor George C. Shaad, of the Electrical Engineering Department, resigned during the summer to become the head of the Department of Electrical Engineering at the University of Kansas. Professor Shaad is a graduate of Pennsylvania State College in the class of '00, receiving the degree of Electrical Engineer in 1905. He came to Technology in 1906 from the Faculty of the University of Wisconsin. He is a member of the American Institute of Electrical Engineers, the American Street and Interurban Railway Association, the Illuminating Engineering Society, the Society for the Promotion of Engineering Education and the National Electric Light Association.

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ALUMNI COUNCIL

First Meeting of the Council, May 12, 1909, 6.30 p.m., at the Technology Club, Boston, Mass.

This meeting was immediately preceded by an informal meeting of the Executive Committee, and by special invitation Messrs. Litchfield, Morss, Munroe, Noyes, and Snow.

Dinner was served at 6.30, and the meeting was called to order at 7.45 by the president, Edwin S. Webster, '88. The following members were present:—

Officers of the Association:—

President, Edwin S. Webster, '88.
Vice-President, Albert F. Bemis, '93.
Secretary-Treasurer, Walter Humphreys, '97.
Executive Committee, Howard L. Coburn, '87.
W. Spencer Hutchinson, '92.
William S. Johnson, '89.

Latest living ex-presidents:—

W. B. Snow, '82.
Everett Morss, '85.
Frank L. Locke, '86.

Representatives at large:—

J. H. Knight, '96.
C. R. Cross, '70.
A. D. Little, '85.
C. T. Main, '76.

Class representatives:—

'68, Robert H. Richards.
'69, Howard A. Carson.
'70, E. K. Turner.
'77, R. A. Hale.
'79, E. C. Miller.
'80, George H. Barton.
'82, James P. Munroe.
'83, Harvey S. Chase.
'84, Harry W. Tyler.
'85, I. W. Litchfield.
'86, Arthur C. Robbins.
'89, Walter H. Kilham.
'90, William Z. Ripley.
'91, Charles Garrison.
'93, Frederic H. Fay.
'94, S. C. Prescott.
'95, Andrew D. Fuller.
'96, J. A. Rockwell.

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'97, C. W. Bradlee.
'98, C.-E. A. Winslow.
'99, H. J. Skinner.
'01, Robert L. Williams.
'03, F. A. Olmsted.
'06, George F. Hobson.
'07, Lawrence Allen.
'08, H. A. Rapelye.

Local societies:—

Technology Club of the Merrimack Valley, George Bowers, '75.
Washington Society of the M. I. T., I. W. Litchfield, '85.
Technology Club of New York, Francis C. Green, '95.
Northwestern Association, M. I. T., I. W. Litchfield, '85.

Also by special invitation, Acting President, Professor Arthur A. Noyes.

President Webster made a few introductory remarks in which he welcomed the Council to its first meeting. He spoke of its being a very representative body of the alumni and the first organized body which has been so thoroughly representative. He also spoke of the ability of such a body to perform intelligently work which is acceptable to the Corporation and the Faculty of the Institute, and the great assistance that it can give in the development of the Institute. He noted that this meeting is one of transition, and on that account the reports of the various committees of the old Alumni Association would be presented first. Following that an important communication from the Acting President of the Institute would be presented, and action taken on the suggestions contained therein.

Following this the various reports were read and accepted.

The following is the report of the secretary:—

There have been held during the past year—that is, from the first of December, 1907, to December, 1908—thirteen meetings of the Executive Committee. By vote of the Executive Committee the officers of the Association remain in power until midnight on the day of the annual dinner. From Dec. 1, 1908, to Jan. 14, 1909, inclusive, there have been five additional meetings of the Executive Committee. At these meetings 96 associate members have been elected against 110 of the previous year. The number of life members has increased from 161 to 183. One honorary member has been elected during the year, Dr. Richard Cockburn Maclaurin.

The Alumni Office has been transferred from the care of the Institute directly to the care of the Alumni Association, and arrangements have been made whereby the office gives assistance to the Institute at a regular rate of 33⅓ cents per hour, which includes stenographic and other general clerical assistance. An important part of this work is the maintenance of the card catalogue of former students.

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The office has also been able to assist the undergraduate interests by keeping books for the societies, by giving stenographic assistance and other clerical work, besides doing a larger amount of work than last year for the various alumni organizations. The work done is given practically at cost. The undergraduates have withdrawn their work on account of their being able to secure the assistance of a man who is stationed at the Union, making it of greater convenience to the undergraduate societies.

It was voted during the year that the annual reception tendered to the graduating class be omitted. This vote was taken in view of the fact that during the past few years the undergraduates have become much more highly organized, and there are at the time of Commencement many more functions than existed when this reception was begun. Instead of holding this reception, the alumni formally received the graduating class, at the Pop Concert, which now is in charge of the Alumni Association, and presented to the graduating class the class banner.

During the past year the following local technology clubs have been added to the list previously announced in the annual catalogue of the Institute, which is published every December:—

Technology Club of Northern California.
Technology Club of the South.
M. I. T. Club of Central New York.
Technology Club of Southern California.
Inland Empire Association of the M. I. T.
Technology Club of Central Pennsylvania.

Additional societies have since been organized, which will be named in next year's report. It was one of the efforts of the committee of the past year to increase to a greater extent the alumni organizations throughout the country. The committee has also during the year arranged in several instances to have representative speakers meet the local associations. It is the purpose to continue this line of work to a greater extent.

The Nominating Committee presented the following names, and by ballot they were elected for the year:—

President, Edwin S. Webster, '88.
Vice-President, Frank E. Shepard, '87.
Secretary, Walter Humphreys, '97.
Executive Committee, William S. Johnson, '89. Charles F. Park, '92.
Nominating Committee, Harry W. Tyler, '84. Edward H. Huxley, '95. Frederick H. Hunter, '02.

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Committee on School, Linwood O. Towne, '78.
Trustee of Alumni Fund and of Life Membership Fund, James P. Munroe, '82.
Advisory Council on Athletics, Frank H. Briggs, '81.

The following were nominated for term members of the Corporation:—

Walter B. Snow, '82.	George C. Whipple, '89.
Theodore W. Robinson, '84.	James Swan, '91.
Charles R. Richards, '85.	William H. King, '94.
Hollis French, '89.	E. Laurence Hurd, '95.

As a result of the annual ballot of the Alumni Association and of the annual meeting of the Corporation, the following men were elected to term membership on the Corporation:—

Walter B. Snow, '82.
Theodore W. Robinson, '84.
Charles R. Richards, '85.

The Executive Committee, at the time of the election of Dr. Maclaurin as President of the Institute, took special interest in circulating among all the alumni a short biography and report of a conference with Dr. Maclaurin, as it was believed that it would be of interest to the members.

The Executive Committee of the Alumni Association during the past year voted to assume the publication of THE TECHNOLOGY REVIEW if the details could be satisfactorily arranged. When the REVIEW became the official organ of the Alumni Association, Mr. I. W. Litchfield, of the class of '85, was elected editor.

Immediately after this the constitution was examined to see what changes should necessarily be made. A special committee was appointed—Messrs. Bemis, Robbins and the President and the Secretary—to consider the necessary amendments to the constitution to provide for the publication of THE TECHNOLOGY REVIEW. The committee reported that it found that a general change in the constitution was desirable, and the Executive Committee appointed a committee made up of Messrs. Bemis, Coburn and Robbins, with the President and the Secretary *ex officii*, to consider a new constitution and to report at the next meeting. This committee performed its work very carefully, and made a report which was discussed very much in detail. The Association of Class Secretaries was invited to confer with the Executive Committee, and a joint committee from these associations was then appointed to consider and report on the matter. Meetings were held, and further discussion took place. As a result, two forms of constitution were presented to a joint meeting of the Executive Committee

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and the Association of Class Secretaries, and the present form was approved, subject to its confirmation by the alumni in general. At the time of the annual election this form of constitution was sent to all members to be voted upon. As noted in THE TECHNOLOGY REVIEW, which had been adopted as the official organ of the Association, this vote was practically unanimous in the acceptance of the new constitution. Immediately the Executive Committee secured nominations for members of the new council, and a ballot was taken resulting in the following membership:

Representatives at large:—

To serve for one year.	*To serve for two years.*
Edward Cunningham, '91.	C. R. Cross, '70.
J. H. Knight, '96.	A. D. Little, '85.
H. Souther, '87.	C. T. Main, '76.
J. Swan, '91.	G. F. Swain, '77.
A. Winslow, '81.	J. P. Tolman, '68.

Class representatives:—

'68, Robert H. Richards.	'89, Walter H. Kilham.
'69, Howard A. Carson.	'90, William Z. Ripley.
'70, E. K. Turner.	'91, Charles Garrison.
'71, E. W. Rollins.	'92, Leonard Metcalf.
'72, Maurice B. Patch.	'93, Frederic H. Fay.
'73, F. H. Williams.	'94, S. C. Prescott.
'74, George H. Barrus.	'95, Andrew D. Fuller.
'75, Thomas Hibbard.	'96, J. A. Rockwell.
'76, John R. Freeman.	'97, C. W. Bradlee.
'77, R. A. Hale.	'98, C.-E. A. Winslow.
'78, C. M. Baker.	'99, H. J. Skinner.
'79, E. C. Miller.	'00, H. E. Osgood.
'80, George H. Barton.	'01, Robert L. Williams.
'81, John Duff.	'02, C. A. Sawyer.
'82, James P. Munroe.	'03, F. A. Olmsted.
'83, Harvey S. Chase.	'04, M. L. Emerson.
'84, Harry W. Tyler.	'05, G. DeW. Marcy.
'85, I. W. Litchfield.	'06, George F. Hobson.
'86, Arthur G. Robbins.	'07, Lawrence Allen.
'87, E. G. Thomas.	'08, H. A. Rapelye.
'88, A. T. Bradlee.	

One of the latest duties of the Executive Committee of the past year was to elect a committee to take charge of the Second All-Technology Reunion in 1909, as follows:—

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Edwin S. Webster, *Chairman.*

Henry Howard.	A. A. Noyes.
George T. Kittredge.	Theodore W. Robinson.
I. W. Litchfield.	W. B. Snow.
Everett Morss.	Hon. Eben S. Draper.

The Executive Committee in November voted that a list of former students who were not included in the Register of Graduates be published, and that the secretary be authorized to prepare such a list. The Association has co-operated in this matter with the Institute.

The report of the annual dinner, at which there was an attendance of 550, was published in THE TECHNOLOGY REVIEW. In view of the fact that the new constitution was adopted before the dinner, the annual meeting of the Association was not held previous to the banquet.

The amount received for dues during the past year was $1,661.48 as compared with $1,579.15 of the previous year.

FINANCIAL REPORT

Balance on hand Dec. 1, 1907		$1,019.92
Receipts:—		
Dues	$1,661.48	
Life Membership	440.00	
Review Subscription	536.00	
Song Book	1.25	
Interest on Deposit	33.26	
Dinner Tickets	482.00	
Gifts	45.85	
Pops and Spread Tickets	2,109.55	
Outside:—		
Labor	127.20	
Supplies	393.46	
Other Alumni Organizations for Fees, Dues, Dinners, etc.	103.25	5,933.30
		$6,953.22
Disbursements:—		
Supplies	$82.27	
Stationery, Postage, Printing	860.09	
Publishing Nominations	28.80	
Express and Car-fares	1.25	
Carried forward	$972.41	$6,953.22

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Brought forward	$972.41	$6,953.22
Song Book, Account of Subscriptions received	1.25	
Review Subscription	537.00	
Trustees of Life Membership Fund	299.00	
Collection Charges, and one Check returned unpaid	15.60	
Dinner:—		
Expenses	753.77	
Refund	16.00	
Clerical Work and Salaries	318.80	
M. I. T., Maintenance of Office	500.00	
Pops and Spread	1,893.82	
In Connection with Outside Work	473.84	
Amount paid to Other Alumni Organizations for Fees, Dues, Dinners, etc.	38.59	5,820.08
Balance on hand Dec. 1, 1908		$1,133.14
Bills payable	$1,020.04	
Bills receivable	579.17	440.87
General Fund available Dec. 1, 1908		* $692.27
General Fund available Dec. 1, 1907		306.01

The following is the report of the trustees of the Alumni Fund and of the Life Membership Fund, presented by Mr. James P. Munroe:—

The trustees of the M. I. T. Alumni Fund and of the M. I. T. Life Membership Fund report for the year 1908 as follows:—

Amount of Alumni Fund, December, 1907	$1,400.18	
Received from Coupons, Tech Club Bonds	40.00	
Interest, Franklin Savings Bank	16.14	$1,456.32
Amount Life Membership Fund, December, 1907	$3,059.93	
Received from W. Humphreys, Secretary M. I. T. Alumni Association (22 life members' fees)	440.00	
Interest, Franklin Savings Bank	43.64	
Interest, Five Cents Savings Bank	75.21	
	$3,618.78	
Carried forward	$3,618.78	$1,456.32

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Brought forward	$3,618.78	$1,456.32
Paid to W. Humphreys, Secretary M. I. T. Alumni Association ($1 for each of the 183 life members),	183.00	$3,435.78
Total Funds held by the Trustees		$4,892.10

The funds are invested as follows:—

Ten (10) $100 second mortgage Technology Club 4% Bonds	$1,000.00	
Deposit in Franklin Savings Bank	456.32	
Deposit in Franklin Savings Bank	1,124.43	
Deposit in Five Cents Savings Bank	2,311.35	$4,892.10

Alumni Fund receipts and expenditures since the beginning of the Trust (1880):—

From Treasurer of the Alumni Association	$1,069.00	
From Interest on Investments	1,271.01	
Bond premium	40.00	
Cash received in 1898	10.00	$2,390.01
Payments made on order of Executive Committee of the M. I. T. Alumni Association		933.69
		$1,456.32

Respectfully submitted,

(Signed) James P. Munroe,
Frank L. Fuller,
Edwin C. Miller,
Trustees.

The following is the report of the trustee of the William Barton Rogers Scholarship Fund:—

Report of the Committee on the William Barton Rogers Scholarship Fund, January, 1909

This fund was established to honor the name and memory of President Rogers.

The fund was founded in 1885, and the collection of it from the members of the Alumni Association occupied five years. It first went into operation in the year 1890–91.

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The interest on the investment, together with the sums returned by former beneficiaries, are both used for aiding students now in the school. It is therefore very important that former beneficiaries should pay back the amounts received at the earliest date possible. The committee regrets that this has not been done. The committee thinks the beneficiaries do not all remember the straits they were in for money, the feeling of gratitude when the money came, and the benefits they were able to derive from having the money. If more of them remembered these things, more money would be paid back to help other young men to derive the same comfort and profit.

The following account is taken from the books of the treasurer:—

Dr.

Oct. 1, 1907, balance on hand	$11,735.40
To interest for year ending Sept. 30, 1908	469.42
To refunded by former students	297.50
	$12,502.32

Cr.

Sept. 30, 1908.	
By scholarships awarded:	
Eleazer Myers	$100.00
Benjamin Bullard	125.00
Chalmers Clapp	100.00
F. E. Goodnow	200.00
Donald Bowman	100.00
H. E. Batsford	50.00
W. E. Booth	50.00
E. E. Kilburn	100.00
E. E. Genoud	100.00
	$925.00
Balance on hand Sept. 30, 1908	11,577.32
	$12,502.32

The total sums paid to students during the eighteen years the fund has been in operation are given in the following table, together with the amounts that have been paid back on each year's account:—

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Year.	*Number Students Aided.*	*Amounts Actually Awarded.*	*Amounts Paid back.*	*Balance Due.*	*Amounts which could have been awarded if prompt payments had been made, calling annual interest $400 and 3 years needed to pay.*
1890–91 . .	2	$150.00	$150.00		
1891–92 . .	8	325.00	150.00	$175.00	$400.00
1892–93 . .	7	450.00	325.00	125.00	400.00
1893–94 . .	6	375.00	200.00	175.00	400.00
1894–95 . .	4	450.00	325.00	125.00	800.00
1895–96 . .	5	450.00	175.00	275.00	800.00
1896–97 . .	6	400.00	50.00	350.00	800.00
1897–98 . .	5	500.00	100.00	400.00	1,200.00
1898–99 . .	21	1,087.50	350.00	737.50	1,200.00
1899–00 . .	5	525.00	175.00	350.00	1,200.00
1900–01 . .	7	512.50	212.50	300.00	1,600.00
1901–02 . .	7	600.00	200.00	400.00	1,600.00
1902–03 . .	6	525.00	175.00	350.00	1,600.00
1903–04 . .	5	500.00	200.00	300.00	2,000.00
1904–05 . .	5	425.00	200.00	225.00	2,000.00
1905–06 . .	9	625.00	50.00	575.00	2,000.00
1906–07 . .	8	625.00	00.00	625.00	2,400.00
1907–08 . .	9	925.00	175.00	750.00	2,400.00
	125	$9,450.00	$3,212.50	$6,237.50	$22,800.00

On account of this unsatisfactory showing the Alumni Association at its meeting in January, 1908, referred the question of adopting a new form of note more binding than that used in the past to a committee consisting of Robert H. Richards, A. A. Noyes and H. W. Tyler, with power to frame such a note for immediate adoption. The note framed by this committee, and which is now in use, is as follows:—

In consideration of dollars paid to the signer hereof from the William Barton Rogers Scholarship Fund of the Massachusetts Institute of Technology, the receipt whereof is hereby acknowledged, the undersigned agrees to repay said sum without interest to said Institute within three years of the date of discontinuing his studies at said Institute. It being further understood between the signer hereof and the said Institute that, if payment is not made by that date, interest on this note shall begin on said date at the rate of 6% annually until said note is paid.

Respectfully submitted,

(Signed) ROBERT H. RICHARDS,
Committee.

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The following is the report of the Walker Memorial Committee, presented by H. W. Tyler:—

ANNUAL REPORT OF THE WALKER MEMORIAL COMMITTEE

The present condition of the Walker Memorial Fund is shown in the following financial statement:—

Receipts

Subscriptions received by Treasurer of Alumni Committee	$83,118.34
Interest	1,047.50
Additional subscriptions by Treasurer of Institute	11,538.34
Interest on fund after investment by Treasurer of Institute (to Jan. 1, 1909)	27,364.66
Total	$123,068.84

Expenses

Bills paid by Treasurer of Alumni Committee	$2,210.77	
Bills paid by Treasurer of Institute	1,332.10	
Total bills paid	3,542.87	
Less appropriation of Association	600.00	
Total bills paid from fund		$2,942.87
Balance in hands of Alumni Committee		2,505.07
Balance in hands of Treasurer of Institute		117,620.90
		$123,068.84

The unpaid outstanding subscriptions amount to about $25,000. The committee has deemed it inexpedient to attempt to collect these until the plans for the actual use of the fund should be more definitely developed.

While the committee deeply regrets the prolonged delay of such plans, we are gratified to add that there is reason for confident hope that the long pending question of the Institute's permanent location is now in line for early settlement. Moreover, the delay referred to will not be without considerable advantage in the experience gained by the establishment and conduct of the present Technology Union. The success of this undertaking, for which, in addition to a share of the Alumni Income Fund, special funds were secured through the generosity of members of the Corporation, is the best evidence of the advantage to be expected from the Walker Memorial itself.

The new requirement of physical training in the first year also emphasizes the importance which the Memorial will have for future students.

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We have reason to expect that the extended litigation on the generous bequest of the late F. H. Cilley, of the Class of '89, devoting nearly $50,000 to special important purposes in connection with the Walker Memorial, will be terminated in the near future.

The committee has received an inquiry from the chairman of the Advisory Council on Athletics as to the possibility of applying a part of the income of the Walker Memorial Fund to meet certain much-needed expenses at the athletic field. While the conditions under which the fund was secured seem to preclude such use of it, the committee deems it only fair to express its cordial interest in the important work of the Advisory Council, and its hope that the Council of the Alumni Association may support it in any practicable way.

For the Committee,

H. W. Tyler, *Chairman.*

February, 1909.

Acting President Noyes announced that he believed that the end of the litigation in the case of the Cilley will, so far as any litigation can be terminated, was reached, and that it was the expectation that the fund would be turned over to the three trustees appointed, and become available for the maintenance of the Walker Memorial, for certain parts of the Walker Memorial Gymnasium, when built.

Following is the report of the Advisory Council on Athletics, presented by Dr. J. Arnold Rockwell ('96):—

Report of Advisory Council on Athletics, Jan. 14, 1909

Your Council feels that the results of the past few years, notably the year just ended, merit the support and confidence the alumni have tendered it. Our Institute is inclined to allow us practically free administration of athletic affairs,—again a token of confidence. Educators are considering more and more the necessity for scientific control of college athletics, and with modest pride we note the general tendency to parallel our methods. The results corroborate our working plan, as seen in the development toward the all-round physically perfect man. Success in life depends not a little upon physical well-being, and by practice and precept we endeavor to develop a physique which shall make possible one's mental attainments.

The sports favored in the past have been Track Athletics, Cross Country Running, Lawn Tennis, Golf, Fencing, Basket Ball and Hockey. The

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Institute has teams in the New England College Associations in Track Athletics, Golf and Lawn Tennis, and has made application for membership in the Intercollegiate Association of Amateur Athletics of America.

Dual Meets were held by the Track Teams with the University of Maine and Brown University, the Institute Team being victorious in both Meets. The Cross Country Team ran at the Intercollegiate Run at Princeton, finishing second and being defeated by Cornell only.

Tech Field Day again brought out a large and enthusiastic attendance. Field Day in 1908 was won by the Class of 1912, this being the only time that a freshman class has won since the inauguration of Tech Field Day in 1901, when the class of 1905 was victorious. The Tech Cross Country Team also defeated Harvard in the Cross Country Run.

This year a method of compulsory gymnastic work was instituted by the Faculty, and the freshmen were given the option of taking athletics or gymnastics, and forty-four men chose the former. In addition there practised in the freshman class, in connection with the various Field Day sports, at least one hundred men, and a similar number from the sophomore class. Besides these there were about sixty men who took part in athletic work, members of other classes.

Last winter the number of men who were exercised under the supervision of the athletic coach, Mr. Frank M. Kanaly, was about forty, and on Tech Field, in the spring, about eighty-five men.

In addition to this there was hardly a day that the field was not used by Class or Course Baseball Teams. There has been a large increase in the interclass and intermural contests. The Freshmen-Sophomore Cross Country Run has been established, and also a track competition, particularly for freshmen.

The alumni has shown greater interest than ever before in the athletic work, particularly in the Cross Country line, several prominent runners of the past having taken active and personal interest in the work.

Permanent cups have also been offered as prizes to be competed for at the spring games for the winner of the Mile Run and the winner of the 440-yard dash and 120-yard hurdles.

An Interscholastic Cross Country Race was held under M. I. T. auspices.

The lines of sport which have been favored by the Advisory Council are unproductive financially, and, although the "Tech" Show as a rule helped us out very considerably, yet in the year which has just passed the financial returns from this were many hundreds of dollars below that of the preceding year. The consequence is that, in order to continue in

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the broad lines and on the broad basis which we have in the past, financial support is necessary from the outside,

Other colleges, as a rule, support their general athletics from the proceeds of football or baseball games, particularly, but the opportunities at the Institute are not favorable to have 'Varsity Football or Baseball Teams, and, further, the Council does not feel like favoring these activities.

The treasurer's report is respectfully submitted, which shows expenditures of about $2,250 above the amount received from the Corporation, which latter is applicable only to the care and maintenance of Tech Field.

If development and support, particularly of Basket Ball, Fencing and Hockey, are to be continued in the future, these three lines alone will increase largely the expenditure another year.

We would suggest that, though the appropriations have been liberal, the demands incident to greater development of our plans will call for even larger expenditures and hence an increase in our annual allowance.

We aim to:—

Give the students more responsibility in the management of athletics, subject to our approval.

Continue to improve the "Tech" Field.

Enhance the value of Class and Institute Athletic insignia.

Employ a trainer whose moral influence is the equal of his professional skill.

Encourage more men to participate in the intermural games.

Create greater alumni interest and support.

Constantly make toward purer intercollegiate athletics.

Your Council is of the opinion that, if Technology can, in the next few years, develop, broaden and systemize instruction in outdoor sports so that more of her graduates will leave the college physically better than when they entered and with a love and an appreciation of exercises "in the open," a distinct educational advance will be made.

We endeavor to entice "into the open" and onto the field of vigorous physical contest hundreds of young undergraduates, who need the exercise to properly complete their Institute course, and many others who are unmindful of the relation of body to mind, and who utterly fail to appreciate the necessity of a vigorous body in order to produce the best results for the highly developed mind.

It is the opinion of the Council that many men need only a word of encouragement and a bit of instruction to transform them from lookers-on

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to enthusiastic participants in sport. Many such have, after three years' practice, developed from weaklings into intercollegiate point winners.

We further aim to prevent intercollegiate competitions from encroaching upon the work of the class-room, and by extending the athletic equipment give encouragement and instruction in out-of-door work to hundreds of students who, because of their inability to make the Institute Teams, have received little attention.

We further wish to encourage more general participation in winter sports, such as Hockey and Hand-ball "in the open" and to Basket-ball "indoors," in addition to Track Athletics and Cross Country Running.

Respectfully submitted by

FRANK H. BRIGGS, 1881, *Chairman.*
J. L. BATCHELDER, Jr., 1890.
J. ARNOLD ROCKWELL, 1896.
R. S. FRANKLIN, 1903, *Treasurer.*
RIDSDALE ELLIS, 1909.
H. E. WHITAKER, 1909.
J. AVERY, Jr., 1910.

REPORT OF THE GENERAL TREASURER

FOR THE YEAR 1908

Receipts

Cash on hand Jan. 10, 1908	$8.99
M. I. T., 1907–08 Appropriation	62.39
M. I. T., 1908–09 Appropriation	1,081.09
Field Day	702.00
Loans	850.00
Tech Show, 1907	300.00
Tech Show, 1908	450.00
N. E. I. A. A.	495.38
Sale of Gravel	94.75
Athletic Association	30.00
Miscellaneous	50.10
	$4,124.70

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Expenditures

Labor, Tech Field	$588.51
Supplies, Tech Field	536.36
Field Day	314.50
Athletic Teams	1,829.47
Loans	350.00
Interest on Loans	49.45
N. E. I. A. A.	22.50
Miscellaneous	47.15
	$3,737.94
Cash on hand	386.76
Balance	$4,124.70

Unpaid Loans, 1907	$500.00
New Loans, 1908	850.00
	$1,350.00
Loans repaid, 1908	350.00
Loans unpaid	$1,000.00

ITEM IN TEAM ACCOUNT

Track Team	$503.15
Cross Country	256.55
Fencing	75.00
Basket-ball	25.00
Tennis	10.00
Hockey	5.00
Athletic Association	954.77
	$1,829.47

Respectfully submitted,

RALPH S. FRANKLIN,
Treasurer.

The recommendations of the supplementary report were placed upon the table for later consideration.

The Alumni Committee on the school failed to have its report ready for the meeting.

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As one of the reports was to be accepted, Mr. I. W. Litchfield moved, as a representative of the Northwestern Association, that the report be accepted. Mr. I. W. Litchfield, as representative of the Washington Society, seconded the motion. Mr. I. W. Litchfield, as representative of the Class of '85, called for the question.

The following communication from Acting President Noyes was read by President Webster:—

BOSTON, MASS., April 12, 1909.

Dear Mr. Webster,—I have given some thought recently to matters which might be taken up by the Alumni Council. The following ideas have occurred to me.

In the first place, it would seem desirable to have appointed a number of committees on the various departments,—at any rate on those departments which have at the present time definite problems requiring consideration. Such committees would naturally consist mainly, if not wholly, of former students of the department in question, and would naturally consult with the leading professors of the department. They might also co-operate with the corresponding Visiting Committees of the Corporation, joint meetings being held when that seems appropriate. The Executive Committee desires me to inform you that it would heartily approve of the formation of such committees.

Whether it is better that such committees be standing committees or special ones appointed to deal with specific problems is a question that the Council should consider. Provision might be made, too, for retiring one-third or one-half of the committee each year, thus insuring frequent infusion of new blood. Such committees would naturally report to the Alumni Council; and, whenever desirable, the reports, with or without additional recommendation, should be transmitted to the Executive Committee. One of the most important things of all is for the alumni to get into closer touch with the work of the Institute; and such committees would serve that purpose.

At any rate, it would seem desirable to have committees at once appointed to deal with the following important subjects: —

A camp for the surveying summer school of the Civil Engineering Department.

Instruction in refrigerating and gas-engineering by the Mechanical Engineering Department and equipment for the same.

Work and equipment of the Mechanic Arts Department.

Of the more general questions with which the Alumni Council might deal I would suggest first that provision be made for initiating and arranging plans for the alumni associations already existing throughout the country, as well as for starting new associations, securing for them speakers representing the Institute, sending the associations information about its development and needs, etc., etc. Whether this can best be handled by

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the Executive Committee of the Alumni Council or by a special committee on alumni relations, the Council could best determine.

Then I would suggest the idea of promoting the foundation of scholarships for sending boys to the Institute, in connection with the important high schools of this section of the country. I spoke of the importance of this at the Alumni Banquet, and I will venture to quote here what I said:

"Another way in which the alumni can often assist on this side is to secure in their own towns the establishment of scholarships in connection with the local high schools. If, for example, there were one or more free Institute scholarships at the various important high schools in New England, we should get very soon a class of picked men of high quality. Moreover, the existence of such scholarships is of great advantage in bringing to the attention of all the pupils of such preparatory schools the opportunities afforded by an education in applied science. It is a form of benefaction, too, that appeals to many men who like to do something for the youth of their own town."

Another important matter which I hope that the Alumni Council will take in hand as soon as the location of the Institute is definitely decided on is that of student houses, to provide satisfactory living places for those of our students who are not able to join fraternities. There is a chance to make an instructive experiment in this direction by erecting two or three such houses on the Institute's land adjoining the Athletic Field in Brookline. This might well be advisable as soon as it is determined that we are to move out anywhere in that general direction, if it should be so determined.

I think that the creation of the Alumni Council will come to be regarded as one of the most important things accomplished at the Institute during the last few years, provided we can succeed in making it an effective working body; and I believe that its members will value the privilege of serving upon it just in proportion as they come to feel that they can be of direct assistance to the Institute.

Yours very sincerely,

(Signed) ARTHUR A. NOYES.

Mr. EDWIN S. WEBSTER,
147 Milk Street,
Boston, Mass.

VOTED, on the motion of Mr. Bemis, that the Executive Committee consider the subject of any permanent or standing committees of the Alumni Association that may be necessary or desirable, and report at the next meeting of the Council, with recommendations for amendments to the Constitution or By-laws that may be desirable in connection therewith.

VOTED, on the motion of Mr. Morss, that a special committee of three be appointed by the Chair to consider the question of establishing a camp for the Surveying Summer School of the Civil Engineering Department.

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VOTED, on the motion of Mr. Morss, that a committee of three be appointed by the Chair to consider the question of instruction in refrigerating and gas-engineering by the Mechanical Engineering Department, and equipment for the same.

VOTED, on the motion of Mr. Munroe, that a special committee of three be appointed by the Chair to consider instruction in Aëronautics by the Mechanical Engineering Department, and equipment for the same.

VOTED, on the motion of Mr. Johnson, that a committee of three be appointed by the Chair to consider the foundation of scholarships for sending boys to the Institute, in connection with the important high schools in this section of the country.

The president then spoke of the need of receiving additional dues, and announced that the proportion of dues received year before last was 38 per cent., last year was 42 per cent., and this year is 45 per cent. The president requested that some action be taken by the Council toward the further payment of dues on the part of those in arrears.

On the motion of Mr. Harvey S. Chase the secretary was instructed to send the Council's request that the secretaries of the various classes be urged to communicate with the members of their classes the need of the payment of dues on the part of those who have not paid, and to call the attention of these members to the fact that twenty-five dollars paid at one time excuses the members of the Association from further payment of dues.

The following communication was read from Mr. James H. Critchett, chairman of the Institute Committee:—

BOSTON, April 20, 1909.

Mr. EDWIN S. WEBSTER:

At the last meeting of the Institute Committee it was voted to ask the Alumni Council to elect a committee of three to act as an advisory committee for the Institute Committee. It is hoped by this means we can keep in touch with the alumni and make the policy of the undergraduates coincide with that of this committee.

We hope that in choosing these men the Alumni Committee will make an effort to get men who can give some time and thought to the committee's work and be interested in following it up.

Yours truly,

(Signed) JAMES H. CRITCHETT.

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VOTED, on the motion of Mr. Litchfield, that a committee on student welfare, consisting of three persons, be appointed by the Chair to keep in touch with all undergraduate interests and to report on the same at the meetings of the Council, also to make such recommendations in regard to the welfare of the students as may seem wise. This committee shall act as an advisory committee to the Institute Committee and to other student activities, when requested.

The recommendation made in the supplementary report of the Advisory Council on Athletics was taken from the table, and Dr. Rockwell spoke for the Council, saying that it was the purpose of this committee to make it possible to develop physically strong men for the Institute, and it was the belief of the Council that, in doing this, it was materially helping the alumni of the school by making men who are mentally strong physically strong, and better able to represent the Institute in their professional work. He spoke of the purpose of the Council to issue season tickets for the games, thinking that this would create a greater revenue.

Mr. Litchfield supplemented Dr. Rockwell's report by speaking of the chance to call upon the loyalty of the Boston men in asking them to subscribe to these season tickets and to support the games of the Institute as do alumni of other colleges.

VOTED, on the motion of Mr. Coburn, that the supplementary report of the Advisory Council on Athletics be referred to the Committee on Student Welfare just appointed.

The president of the Association ruled that the existence of the Alumni Committee on the School ceased upon the presentation of its report. Professor Winslow remarked that he thought such action undesirable in view of the fact that this committee had formed a very convenient channel through which the members of the Institute Faculty can reach the alumni, and that it was desirable to have such a committee go through the Institute each year to see exactly what is being done. The Chair called attention to the fact that these committees just appointed would in their work visit the Institute, and, as needs were brought to the attention of the Council, additional committees could be appointed. Mr. Little, of the Class of '85, suggested that the chairmen of all these committees might form a Committee on the School.

VOTED, on the motion of Mr. Coburn, that this question await the action of the special committee.

The following communication was read from the Class of '89 in regard

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to the eligibility of members of the School of Mechanic Arts to membership in the Association:—

The Class of '89 desires to suggest to the Council of the Alumni Association the desirability of accepting as associate members of the M. I. T. Alumni Association former students of departments associated with or under the general direction of the Massachusetts Institute of Technology, such as the School of Mechanic Arts, the special course in architecture, and the Lowell School of Design.

FEB. 1, 1909.

Mr. Bemis questioned the constitutionality of such a request. Professor Tyler spoke of the decision on this question when he was a member of the membership committee of the Association, and that, while he was in sympathy with this request made by this group of strong men, he failed to see how, under the present constitution, such a request could be granted.

During the discussion following it was the sense of the meeting that, should such a request be granted, a similar request might be raised by the Lowell School of Design, and, should the present Lowell School of Industrial Foremen cease, a similar request from them might be raised, in view of the fact that members of both of these schools have received instruction within the walls of the Institute. As such a condition seemed undesirable, the question was by vote laid upon the table.

Acting President Noyes spoke on the question of a site for the Institute, stating that what he should say was not definite nor was it final, but he did assure the Council that almost every one felt now that it was desirable that the Institute should move and rebuild. There is no uncertainty in regard to the policy that, when we move, no district remote from the city should be chosen, that the Institute should retain its close contact with the city, that a site not greater than two or three miles from the centre of the city should be chosen. The present consideration does not concern a special site in view of the fact that the question of funds was the first to be determined, because any site involves the expenditure of from $700,000 to $1,000,000. Before the step is taken, a large per cent. of this amount should be in sight, and at present the great problem is that of raising funds. Substantial assistance has already been promised by some prominent alumni, and the search for funds will be continued. It is interesting and gratifying to realize that Dr. Maclaurin has adopted this idea and wishes to carry it on.

Mr. Litchfield, as secretary of the Reunion Committee, reported that

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great progress had been made in preparation of the final plans for the Reunion, and that it looked now as if many people, unless they soon indicated their desire to attend the various functions, would have to be excluded at the last moment from those functions that must be prepared for a certain number. Already one thousand have indicated their desire to attend the Pop Concert, eight hundred have applied for tickets to the banquet, twelve hundred have indicated their intention to attend the Smoker, and three thousand to take the excursion to Nantasket. Notices will probably be sent out again May 20 or 22. It is interesting to note that on the various committees there are as many as seventy-five of the alumni.

Mr. Litchfield suggested that the various classes appoint a marshal for the Pop Concert, in order that there might be less noise than formerly on account of the large attendance, and of the desirability of these marshals restraining the various classes from too enthusiastically and noisily provoking attention.

Mr. H. A. Rapelye ('08) spoke of the need of establishing a research laboratory of engineering. He reminded the Council that the term of annual payment of $25,000 a year on the part of the Commonwealth to the Institute would soon expire, and that the Institute would need to make another request. In connection with this more benefit could be shown to the Commonwealth if such an engineering laboratory of research could be developed.

VOTED, on the motion of Mr. Rapelye, that a committee of three be appointed by the Chair to consider the question of the development of a research laboratory of engineering.

Mr. Francis C. Green ('95), representative of the Technology Club of New York, presented the compliments of the New York Society to the Council, and spoke of the club house which has just recently been obtained by the New York Society in Gramercy Park. He spoke also of their renewed prosperity and of their comfortable quarters just obtained.

Mr. Bemis asked for information in regard to the maintenance of the Rogers Memorial Scholarship Fund. Professor Richards, trustee, responded, and explained how the fund had been established and how it had been maintained, and how the faculty committee on undergraduate scholarships awarded assistance to the undergraduates. Requests were made by members for further information, and Professor Richards stated that he regretted that more had not repaid the amounts already loaned,

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and he showed that, had more repaid promptly, more undergraduates could have been assisted.

The president, Mr. Webster, at this moment threw the meeting open for any further new business and for general discussion. He invited communications from the various delegates now and also before the next meeting.

The meeting adjourned at 9.40 P.M.

WALTER HUMPHREYS,
Secretary.

In accord with the vote of the Council the following special committees have been appointed:—

Committee on Summer School of Surveying:—
Leonard Metcalf, '92, *Chairman.*
F. H. Fay, '93.
A. F. Bemis, '93.

Committee on Aeronautics:—
Henry Howard, '89, *Chairman.*
Henry Morss, '93.
Hon. Butler Ames, '96.

Committee on Student Welfare:—
Dr. A. A. Noyes, '86, *Chairman.*
Howard L. Coburn, '98.
G. D'W. Marcy, '05.

Foundation of Scholarships:—
Professor C.-E. A. Winslow, '98, *Chairman.*
James P. Munroe, '82.
Linwood O. Towne, '78.

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NEW ASSOCIATE MEMBERS

The following former students were elected associate members of the Alumni Association on the dates indicated:—

Jan. 7, 1908: Hon. Guy W. Currier, '88.

Feb. 18, 1908: William L. Benedict, '80; J. Frank Blackie, '04; Ernest A. Bragg, '98; Frank Cushman, Jr., '01; Firmin V. Desloge, '02; Charles W. Ewart, '02; George F. Fisk, '01; Edwin F. Hicks, '94; Neidford H. Houghton, '87; Anthony M. Robeson, '94; Fred I. Tucker, '00; Channing M. Wells, '92; and George N. Wheat, '04.

March 17, 1908: Ralph B. Fay, '05; Arthur G. Fogg, '86; George Fuller, '05; Edgar L. Hill, '05; Eugene Lombard, '05; Clarence A. Lord, '05; Robert F. Luce, '05; Roland A. Perry, '05; Halsey R. Philbrick, '06; Ralph W. Reynolds, '88; Samuel Shapira, '05; Henry B. Siebrecht, '05; Alton P. Trufant, '01; and Waldso Turner, '05.

April 14, 1908: Robert H. Doepke, '06; James F. Fouhy, '06; Arthur H. Howland, '05; Leonard F. Myers, '03; Herbert F. Otis, '84; John S. Small, '98; and Clifford R. Wilfley, '06.

May 12, 1908: Ogden R. Adams, '06; Fritz C. Bickford, '05; Percy J. Colvin, '07; George Jason, Jr., '05; William F. Kimball, '07; Thomas F. McDonnell, '02; Benjamin Madero, '06; Ernest A. Miner, '07; Frank F. Phinney, '93; John L. Richter, '07; and Philip B. Walker, '07.

Sept. 22, 1908: Ernest S. Altgelt, '07; Nathaniel B. Buxton, '91; Edward S. Chase, '06; Earl G. Christy, '06; Edmund P. Collier, '78; Howard S. Denham, '03; Nathan J. Gibbs, '06; James E. Griffin, '06; Philip S. Harrison, '06; George F. Hiller, '98; Thomas J. Holmes, '07; Isa W. Kahn, '06; Roy G. Kennedy, '06; Samuel A. Kephart, '07; Henry M. Lewis, Jr., '07; James J. Mahler, '07; Henry C. MacRae, '07; Howard J. Morton, '07; George W. Otis, '07; Edward B. Pollister, '06; Wiear L. Rowell, '06; Herbert A. Stevens, '07; and William F. Walker, '06.

Nov. 23, 1908: Burton A. Adams, '98; Arnold W. Heath, '08; Henry W. Hoole, '08; Alfred R. Hunter, '08; Walter Large, '79; J. Albert Robinson, '02; and Stanley M. Udale, '07.

Dec. 8, 1908: George W. Francis, '04.

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Jan. 25, 1909: William A. Adams, '08; Douglas Cairns, '08; John H. Draper, '04; Alexander Ellis, '08; Hubert W. Flaherty, '08; Chester A. Hoefer, '06; George L. Hosmer, '97; Percy L. Handy, '08; William P. Monahan, '07; Chadwell S. Peirce, '06; Frederick G. Perry, '08; Montgomery Rollins, '89; Edward J. Scott, '08; Ishmar das Varshnei, '06; Allen T. Weeks, '08; and Charles W. Whitmore, '08.

Feb. 18, 1909: Clinton C. Barker, '07; Everett J. Beede, '08; Carroll C. Curtis, '05; Edward Kloberg, '08; E. A. Northey, '90; Eugene E. Peirce, '89; Frank L. Pierce, '89; Arthur E. Skillings, '08; Arthur C. Winch, '08; and Charles F. Wray, '96.

March 16, 1909: John C. Abbot, '93; John C. Abbott, '86; Leon M. Abbott, '89; Professor Charles L. Adams, '84; William A. Adams, '08; William H. Adams, '91; Winthrop Alexander, '83; Annie E. Allen, '94; Anson W. Allen, '85; Frank D. Allen, '02; L. Mabel Allen, '00; Mark W. Allen, '96; Robert P. Anderson, '99; George R. Anthony, '98; Arthur B. Appleton, '08; Colonel Francis H. Appleton, '71; K. Asano, '01; Louis H. Asbury, '04; Richard C. Ashenden, '07; Albert C. Ashton, '89; Franklin G. Ashton, '93; George T. Atkinson, '92; George C. Avery, '76; Paul A. Babcock, '00; William S. Babcock, '83; Charles J. Bacon, '01; Mrs. Richard P. Baer, '86; George W. Bailey, '08; Henry H. Bailey, '89; Warren S. Baker, '08; Francis D. P. Balch, '93; James C. T. Baldwin, '88; William E. Barbour, '96; Jules V. Barnd, '05; Rowland H. Barnes, '91; Willard C. Barnes, '03; George S. Barrows, '93; Edward W. Bartberger, '02; Sarah L. Bates, '02; Edw. S. Baumaun, '93; Jesse B. Baxter, '93; Benjamin L. Beal, '75; Mart A. Beal, '82; William M. Beaman, '89; William F. Becker, '05; James L. Belser, '88; Harold A. Besse, '02; Harold Binney, '88; Donald McI. Blair, '88; Henry W. Blake, '88; Howard C. Blake, '06; John Blodgett, '88; Marion G. Boland, '05; Ignacio Bonillas, '84; James E. Borden, '90; Walter L. Bouve, '74; Mrs. Archer C. Bowen, '03; Daniel H. C. Bowers, '04; James C. Boyd, '93; Perkins Boynton, '01; Charles O. Bradford, '76; Franklin E. Bragg, '97; J. T. Norwood Braithwaite, '88; Charles H. Breck, '70; Carl Brewer, '07; Charles H. Brigham, '04; J. S. Bronson, '01; Charles B. Brooks, '73; C. A. Brown, '85; C. L. Brown, '88; E. L. Brown, '89; Jacob W. Brown, '93; Ralph G. Brown, '91; Sarah A. Brown, '89; William H. Brown, '02; Miss Barbour Bruce, '02; Dr. Thomas K. Bruce, '87; Arnold W. Brunner, '79; Riggin Buckler, '08; Harold C. Buckminster, '95; B. D. Bumstead, '93; S. Clayton Burkett, '08; Silas R. Burns, '80; Arthur M. Burtt, '93; Walter M. Butts, '05; Ernest W. Calkins, '04; Jeremiah Camp-

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bell, '91; J. W. Campbell, '96; Carroll A. Capen, '97; Guy Carleton, '95; Rose A. Carrigan, '99; Charles T. Carruth, '73; Charles J. Carter, '08; James W. Cartwright, Jr., '89; Rodney C. Caryl, '08; Charles A. Catlin, '94; Noel Chamberlin, '04; B. L. Chandler, '84; Charles J. Chapin, '97; Mabel H. Chapin, '94; Evarts W. Charles, '04; A. M. Chuchian, '06; Percival M. Churchill, '95; William Y. Chute, '92; Clifford B. Clapp, '02; George H. Clapp, '03; Gustavus Clapp, '95; John C. Clapp, Jr., '93; Prescott J. Clapp, '06; Charles H. Clark, '91; Walter A. Cleaveland, '98; Ezra E. Cleaves, '97; Henry W. Clement, '90; Fred W. Coburn, '96; Charles W. Coffin, '07; Charles N. Cogswell, '92; Herbert A. Cole, Jr., '08; George S. Coleman, '08; William A. Conant, '88; Emma O. Conro, '84; M. W. Cooley, '87; Herbert Coolidge, '71; Stephen E. Coombs, '87; Frederic G. Corser, '78; David H. Cowell, '01; Allen H. Cox, '98; Frederick S. Cram, '08; Jasper E. Crane, '04; Robert F. Crary, Jr., '04; Andrew W. Crawford, '96; Harry R. Crohurst, '07; Charles M. Culp, '01; George A. Curtis, '04; Mrs. G. S. Curtis, '00; Henry R. Curtis, '80; T. P. Curtis, '94; George W. Cutting, Jr., '00; Herbert Dabney, '75; Alice E. Daly, '02; Herbert F. Daly, '02; Leslie Dana, '94; Elmer A. Darling, '72; Cyrus V. Dart, '00; James F. Davenport, Jr., '85; Charles W. Davis, '96; Frank I. Davis, '92; Leon H. Davis, '06; Lorenzo M. Davis, '70; Fred B. Dawes, '98; Stephen Decatur, '77; Robert M. Derby, '01; Leo J. Devlin, '05; Dwight Dickinson, Jr., '08; Alice N. Dike, '03; F. Eugene Dixon, '06; John W. Dodd, '98; Harry W. Donald, '05; Frank G. Dort, '81; John Dove, '95; G. W. Drach, '83; Frank Drake, '94; Charles H. Drew, '06; Hugo William Druehl, '03; James C. Dryer, '99; William M. Duane, '89; Kinsley Dunbar, '89; Emmet Dwyer, '05; John Dyer, Jr., '95; George E. T. Eager, '02; Alan F. Edge, '09; A. B. Edwards, '93; George B. Elliot, '74; Richard O. Elliot, '96; Herbert A. Ellis, '08; Walter Ellis, '90; Charles H. Ely, '98; Carleton M. Emerson, '06; Guy C. Emerson, '90; Joseph I. Estes, '76; A. H. Eustis, '03; D. Howard Evans, '00; Joseph D. Evans, '01; Arthur G. Everett, '77; Charles W. Ewart, '02; Charles G. Ewing, '08; Charles R. Faben, '07; Warren E. Fairbanks, '77; William K. Fairbanks, '97; John H. Fallon, '72; John G. Faxon, '88; Harry F. Fay, '71; Arthur E. Feeley, '06; Amedeo L. S. Ferrandi, '08; Percy R. Finer, '04; George E. Fisher, '98; Harry E. Fisher, '07; George F. Fisk, '01; Robert F. Fisk, '70; Redington Fiske, '85; Charles N. Fitts, '91; Howard H. Flagg, '05; Charles E. Fleming, '98; Henry V. Fletcher, '06; Mrs. Londa S. Fletcher, '93; Arthur G. Fogg, '86; A. Prescott Folwell, '88; Lyman A.

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Ford, '89; William H. Foster, '04; Frederick N. Fowler, Jr., '02; Henry A. Francis, '83; R. S. Franklin, '02; Matilda A. Fraser, '99; Horace S. Frazer, '85; Frank W. Friend, '07; William P. Frink, '86; Arthur B. Frizell, '88; Clarence E. Fuller, '93; H. B. Fullerton, '79; Frederick B. Gaenslen, '91; Albert L. Galusha, '01; James A. Gammans, '88; Charles H. Gardner, '87; George C. Gardner, '86; Thayer P. Gates, '02; Albert Geiger, Jr., '95; Harry A. George, '02; Elmer L. Gerber, '99; Lyman L. Gerry, '82; William F. Gerry, '04; Dr. Thomas J. Giblin, '85; Samuel E. Gideon, '06; Clarence D. Gilchrist, '93; George B. Glidden, '93; Albert S. Glover, '77; Carl E. Goldthwait, '08; George F. Goodnow, '88; William F. Goodwin, '04; Albert S. Gottlieb, '02; Dr. Anna M. Gove, '91; Mrs. H. C. Grant, '95; James D. Grant, '08; Harold S. Graves, '99; W. D. Gray, '06; George M. Greene, '03; Joseph T. Greene, '86; S. Cuyler Greene, '85; William F. Grimes, Jr., '08; Irving T. Guild, '88; James R. Guy, '98; Charles E. Haberstroh, '74; Edward W. Hadcock, '02; Isaac T. Haddock, '03; Charles A. Haigh, '91; Charles H. Hall, '96; Frank R. Hall, '71; Gaylord C. Hall, '96; Melville B. Hall, '08; Prescott F. Hall, '89; Ralph H. Hall, '07; Ralph N. Hall, '07; Frank E. Hamilton, '07; H. G. Hammett, '84; Newton L. Hammond, '08; James O. Handy, '88; Herbert F. Hanson, '83; Lyman P. Hapgood, '99; Karl S. Harbaugh, '95; George C. Harding, '89; Susan J. Hart, '90; William S. Hart, '00; Herbert W. Harvey, '06; Philip Harvey, '90; Arthur N. Hastings, '05; George F. Hatch, '97; R. E. Havens, '04; John C. Hawley, '93; Lloyd B. Haworth, '02; Fred L. Hayden, '98; Albert A. Hayward, '06; Edward B. Hayward, '84; William A. Hazard, '99; Isaac B. Hazelton, '97; Sumner Hazelwood, '01; John F. Heckman, '03; Daniel C. Hemingray, '79; John William Henkelman, '94; William T. Henry, '70; Franklin Henshaw, '88; Nathaniel G. Herreshoff, '70; Arthur H. Herschel, '99; Ira G. Hersey, Jr., '08; Herbert E. Hewitt, '94; Edwin F. Hicks, '94; Francis William Hight, '93; Herbert V. Hildreth, '85; Herbert W. Hill, '07; James L. Hillard, '70; Haven J. Hilliard, '96; J. P. Hinckley, '07; P. R. L. Hogner, '06; B. E. Holden, '94; Mary C. L. Holman, '92; Charles L. Holmes, '88; John M. Hood, Jr., '01; Henry D. Hooker, '84; Stanley A. Hooker, '97; George K. Hooper, '91; Walter A. Hopkins, '06; Walter A. Hotchkiss, '06; Henry Howard, '89; Sheldon L. Howard, '97; Henry S. Hubbell, '06; John H. P. Hughart, '75; Andrew W. Hull, '07; Arthur K. Hunt, '85; William F. Hunt, '93; William B. Hunter, '08; Edmund J. B. Huntoon, '89; Arthur W. Huse, '98; Russell T. Hyde, '08; Roger P. Ingalls, '05; George O. Jackson, '99; Sidney V. James, '08; Herbert Jaques, '77; Alfred C.

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Jennings, '01; L. B. Jennings, '00; Charles H. Johnson, '05; O. A. Johnson, '07; Bassett Jones, Jr., '99; Henry S. Josselyn, '78; L. Joseph Joyce, '90; Walter T. Keen, '04; Alfred N. Kelling, '05; John F. Kelly, '98; F. A. Kendall, '87; Henry H. Kendall, '76; Carl W. Keniston, '08; Richard Y. Kennard, '08; Herbert W. Kenway, '05; Andrew Kerr, '06; Warner H. Kiefaber, '08; Fred M. Kimball, '85; James L. Kimball, '85; William F. Kimball, '07; James C. Kimberly, '94; Edmund W. Kingsbury, '85; F. J. Kingsbury, '86; Walter B. Kirby, '07; Guy Kirkham, '87; Alfred J. Krafft, '07; Elmer J. Krafft, '08; Florian L. Lacoff, '99; Florence M. Laighton, '93; Minerva A. Laing, '98; Henry W. Lamb, '74; Frank H. Langworthy, '05; John Lavalle, '85; Arthur W. Lawrence, '05; Charles M. Lawrence, '94; Mark A. Lawton, '83; George H. Leach, '00; William H. Leathers, '03; Fred. C. Lebenbaum, '06; Francis W. Lee, '74; William T. Leman, '73; Frank E. Levanseler, '71; Dr. Ernest C. Levy, '04; Hortense W. Lewis, '00; Ion Lewis, '78; M. Lichtenstein, '06; Laura A. Linton, '84; James L. Little, Jr., '00; Philip Little, '79; W. T. Littlefield, '92; Horace G. Lobenstine, '92; Rhodes G. Lockwood, '97; Richard W. Lodge, '79; Alfred W. Lombard, '98; Moses J. Look, '92; Emil Lorch, '93; Frederic W. Lord, '94; Arthur C. Lotz, '93; Joseph P. Loud, '87; Elmo C. Lowe, '05; H. R. Lowry, '04; George F. Luce, '84; Leroy W. Luce, '07; Frank E. Ludington, '08; William J. Lüther, '84; Frank Lyman, '75; John T. Lyman, '85; Lewis J. Lyman, '05; Harry M. Lynde, '05; A. McColl, '87; F. M. McCombs, '79; Henry M. McCue, '06; Frank A. McDonald, '90; Herbert D. McKibben, '06; George W. Maloy, '73; W. Harry Mandeville, '99; Henry Manley, Jr., '02; Chauncey P. Manning, '02; Albert K. Mansfield, '73; G. M. Mansfield, '74; Albert T. Marshall, '93; John R. Marston, '04; Waldo A. Martin, '90; Elizabeth S. Mason, '93; Willis H. Mason, '08; J. L. Mauran, '89; Ruth Maxwell, '08; John E. May, '89; Amy B. Maynard, '84; Edwin B. Mead, '99; Ernest E. Mead, '96; William H. Medlicott, '08; John A. Meggison, '05; Marshall G. Meriam, '05; Arthur P. Merrill, '01; Frank A. Merrill, '87; Winthrop N. Messenger, '06; Edward N. Milliken, '98; Harold W. Mitchell, '05; Albert V. Moller, '00; John F. Montgomery, '73; Frederick C. Moody, '90; Walter S. Moody, '87; Ernest B. Moore, '88; George Moore, '93; George D. Moore, '88; Lewis E. Moore, '02; Richard H. Morgan, '79; John M. Morris, '06; William L. Morris, '99; Charles W. Morrison, '08; George A. Morton, '76; Charles H. Mower, '88; John J. Mullen, '08; William J. Mullins, '85; Oscar Munyan, '81; George L. Munn, '88; James W. Nagle, '96; Theodore Nelson, Jr., '04; Ralph H.

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Nesmith, '05; Joseph P. Newell, '88; George H. Norris, '84; Reginald Norris, '96; Herbert W. Northey, '87; Mrs. Lewis M. Norton, '96; Edmund H. Noyes, '92; George H. Nye, '85; J. A. C. Nyhen, '03; George A. Orrok '89; Christel Orvis, '70; Josiah A. Osgood, '70; Ambrose Packard, '92; Morris V. Paddock, '04; Frank N. Page, '85; Mary H. Page, '88; Alden R. Palmer, '93; Howard S. Palmer, '07; Mary T. Palmer, '84; Charles H. Parker, '84; Horatio N. Parker, '94; Dalton Parmly, '93; Nathaniel K. B. Patch, '02; Normand S. Patton, '75; Arthur H. Pearson, '70; Edward G. Pease, '93; Harold D. Peat, '07; William C. Peet, '94; Eugene E. Peirce, '89; Earl R. Pembroke, '03; Henry B. Pennell, '90; Thomas T. Perkins, '96; Walter G. Peter, '90; Theodore W. Pietsch, '89; Henry S. Pitts, '04; William G. Plumer, '90; Charles H. Pope, '97; Harold L. Pope, '02; Edward A. Porter, '93; Edward C. Potter, '80; Alfred S. Pratt, '84; Nathan R. Pratt, '91; Edwin M. Price, '08; William H. Punchard, '91; Charles S. Rackemann, '78; John H. Rankin, '89; William H. Rea, '79; Benoist S. Redd, '88; William P. Regan, '87; Arthur T. Remick, '06; Edward Renouf, '70; Francis V. Reyburn, '08; Arthur W. Rice, '91; Isaac Rich, '78; Lamont Rich, '98; Henry Richards, '71; F. B. Riley, '05; George A. Robinson, '99; John T. Robinson, '98; Thomas P. Robinson, '99; George H. Rodd, '07; R. Roger-Marvaise, '96; Howard L. Rogers, '93; Henry P. Rolfe, '97; Norman P. Rood, '99; Walter F. Roper, '02; Ralph R. Rumery, '98; John C. Runkle, '88; Dr. Scott C. Runnels, '05; M. S. Ryder, '91; E. O. Saltmarsh, '69; Thomas H. Sampson, '74; Edward H. Sargent, '07; Harry J. Sargent, '07; Ralph E. Sawyer, '97; Henry H. Saylor, '02; William E. Scales, '92; Richard E. Schmidt, '87; D. C. Schonthal, '05; Robert A. Schumucker, '08; Elmer Schwab, '74; John T. Scully, '01; B. Hammett Seabury, '79; Francis P. Sears, '90; George G. Sears, '84; Francis L. Sellew, '07; Henry R. Sewell, '08; Herbert H. Sharp, '83; Alfred V. Shaw, '96; Howard V. Shaw, '93; E. R. Sheak, '99; J. M. A. Sheldon, '81; Horace B. Shepard, '75; Frank I. Sherman, '77; John L. Shortall, '87; Edwin A. Shuman, '86; F. S. V. Sias, '95; George E. Sibbett, '03; James F. Sickman, '98; Clark D. Simonds, '04; Fred W. Simonds, '05; Joseph H. Sinclair, '08; Hans W. L. Sjostrom, '96; Lemuel D. Smith, '06; Paul D. Smith, '96; Theodore L. Smith, '07; Frank A. Smythe, '89; Frank W. Snow, '98; Louis A. Sohier, '99; William D. Sohier, '78; Benjamin D. Solomon, '03; Kaludy Spalding, '89; Charles S. Sperry, Jr., '04; Russell T. Starr, '96; Elwyn W. Stebbins, '93; Ralph G. Stebbins, '06; E. F. Stevens, '83; Louisa B. Stevens, '07; Charles J. Stevenson, '07; Edmund T. Stewart, '99; Charles A. Stickney,

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'98; George W. Stone, '89; Edward C. Story, '08; Paul D. Swartz, '06; J. Charlotte Swinson, '00; George G. Symes, '07; Arthur W. Talbot, '06; Dr. Alice W. Tallant, '98; Wilbert C. Tandy, '99; A. T. Taylor, '95; Lieutenant Brainerd Taylor, '99; Eugene H. Taylor, '78; G. Wood Taylor, '90; John H. Taylor, '07; Lawrence M. Thacher, '86; Charles S. Thomas, '02; William B. Thomas, '94; William R. Thomas, '87; Harry H. Thorndike, '93; Leroy L. Thwing, '03; Osmon B. Tilton, '86; Thomas Todd, Jr., '99; J. A. Trott, '01; Edgar A. Turner, '08; Herbert Tutweiler, '06; John D. Underwood, '98; Joseph McA. Vance, '91; William W. Varney, '86; Thomas M. Vinton, '97; Clifford L. Wade, '08; J. S. Wadsworth, '93; Frank H. Wakefield, '84; William Q. Wales, '72; Frank R. Walker, '00; Harriet A. Walker, '82; Emil A. Wallberg, '92; James L. Walsh, '07; William H. Warnock, '05; Herbert L. Warren, '79; Charles D. Waterbury, '95; Charles P. Waterman, '03; Irville D. Waterman, '02; Laurence J. Webster, '93; Lester S. Weeks, '08; Marion M. Weeks, '99; Rev. George F. Weld, '90; Frank A. Werner, '99; Leonard Wesson, '00; William E. West, '99; Mrs. W. B. Whaley, '88; Daniel M. Wheeler, '68; Milton M. Wheeler, '94; Charles B. Wheelock, '77; Leyland C. Whipple, '04; Laura B. White, '79; William W. White, '06; Warren M. Whiting, '69; Harrie L. Whitney, '05; Samuel A. Whitney, '86; Samuel S. Whitney, '68; William S. Wicks, '76; Bryant Willard, '91; John F. Willard, '76; Jay W. Williams, Jr., '06; Mrs. Sydney M. Williams, '06; Richard W. Wilson, '08; Winslow A. Wilson, '95; Henry T. Winchester, '03; Paul Winsor, '86; James C. Wolfender, '07; Ellis G. Wood, '05; Frederic J. Wood, '88; Charles J. Hill Woodbury, '73; W. H. Woodfindale, '92; Elizabeth J. Woodward, '81; George H. Wright, '98; James H. Wright, '95; Vernon A. Wright, '90; William H. P. Wright, '06.

April 23, 1909: Edward E. Bennett, '07; John R. Brittain, '93; George A. Clark, '01; W. H. Dawes, '85; A. S. Douglass, '08; W. Stillman Dutton, '91; Ralph L. Dyer, '06; Sidney S. Emery, '93; Frederic E. Everett, '00; Horace F. Farnham, '99; Lucius W. Godfrey, '00; Percy F. Goodwin, '01; Rudolf F. Haffenger, Jr., '95; Lawrence C. Hampton, '07; Walter J. Heinritz, '01; Charles L. Homer, '04; Walter T. Hoover, '07; Edwin W. James, '07; Charles J. Lincoln, '84; Charles M. Luce, '07; Robert F. Luce, '05; Frederick D. Mabrey, '04; Angus A. McInnes, '01; Edgar L. Meyer, '05; William D. B. Motter, Jr., '05; Edward M. Norcross, '76; Frederick N. Peirce, '08; Charles A. Raymond, '07; Maurice F. Richardson, '99; Leonard E. Schlemm, '03; Herman R. Simmons, '04; Walter B. Small, '07; Charles H. Stebbins, '04; James P. Stow, Jr., '07; Robert

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W. Swift, '95; Robert K. Taylor, '07; William A. Tracy, '08; U. Tsukakoshs, '07; Herbert Vanderhoof, '99; Philip Wadsworth, '04; F. E. Woodbury, '89; Ira V. Woodbury, '06; Royal B. Young, '87; and A. G. Zimmermann, '94.

July 12, 1909: Leon L. Allen, '07; Joshua Atwood, 3d, '92; Roland Bailey, '94; Edgar H. Barker, '96; Maurice Bredin, '06; Chester A. Butman, '05; Charles S. Cole, '03; John W. Conover, '07; Warren F. Currier, '03; J. Linfield Damon, Jr., '91; John Donaldson, '07; Clement J. Dore, '08; William N. Dudley, '92; Michael J. Gibbons, Jr., '06; Francis B. Groover, '07; Henry L. Johnson, '92; Ralph J. Karch, '08; Z. H. Long, '98; Daniel M. Luelns, '06; Wallet G. Pfeil, '08; N. G. Robertson, '85; Charles F. Runey, '07; George H. Shaw, '04; Francis F. H. Smith, '03; J. W. Stearns, '87; Theodore H. Stramblad, '05; Fred A. Thomas, '87; Frank Toohey, '03; Frank F. Tripp, '87; Herbert L. Wardner, '93; William Waterman, '02; W. Elliot Weinz, '08; Joseph B. White, '89.

Sept. 28, 1909: Arthur R. Childs, '02; Frank L. Connable, '93; Clifford F. Crosby, '89; Frederic B. Menner, '07; Raymond W. Parlin, '08; Samuel F. Rosenheim, '93; and Joseph F. White, '93.

Tech Men are Interested

The Register of the Society for the Promotion of Engineering Education published in April shows a membership of 675 against 503 a year ago. Among the 116 colleges and universities represented in the membership of the society, the Institute stands easily first with 37 members, or 16 more than last year. The University of Illinois comes second with 24; Ohio State University, third with 22; the University of Minnesota, fourth with 20; followed by Wisconsin with 18, Purdue with 17, etc. Among other New England institutions, Worcester has 11; Yale, 11; Brown, 8; Harvard, 7; Tufts, 6; Vermont, 6; the Thayer School at Dartmouth, 3; New Hampshire College, 2; University of Maine, 2, etc.

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MISCELLANEOUS CLIPPINGS

Here's a Scotch welcome to President Maclaurin of the Massachusetts Institute of Technology. Boston greets heartily this accomplished Scotchman who, to a thorough university equipment, has added a knowledge of men and affairs in various parts of the world,—the best possible preparation for the responsibility he assumes. The new president comes to us with the highest indorsements as an educator and a man who will be a great acquisition to the intellectual and political life of Boston.

There are many technical schools, but only one "Tech," which is no place for the mollycoddle or the idler who esteems a college degree because it looks well to hang up on a study or office wall, but too often is of little value in measuring the educational equipment of the person whose name it bears. A "Tech" diploma means hard work, something accomplished, the survival of the fittest. If a man holding it does not make good in life, it is not the fault of the Institute.

Better than any other people the Germans know a good technical school when they see it, and there is no place of learning in the United States more highly respected in Germany than the school on Boylston Street, which is turning out the kind of men the nation needs to meet the commercial requirements of an age that demands specialized skill,—the trained engineers, chemists, directors armed with the last-discovered secret of science and the last-uttered word concerning industrial progress and methods demanded by our time.

It will not be many years before every state will have its schools patterned after Boston's "Tech," but under the new president we are confident it will continue to remain what it is today, the first and the best.—*Boston Traveller, June* 8.

With the opening of the academic year this fall Dartmouth College and the Massachusetts Institute of Technology will each have a new president. Dr. Richard C. Maclaurin has already been inaugurated as the head of the Institute. Dr. Ernest Fox Nichols has been elected to succeed Dr. Tucker at Dartmouth, and is ready to take up his task. At the time of their election the *Outlook* gave an account of the career of each,—of Dr.

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Maclaurin last November and of Dr. Nichols in June. It is an interesting coincidence that both men have been called from the Department of Physics in Columbia University, New York. They are both well under middle age, Dr. Nichols being forty years old and Dr. Maclaurin a year or so younger. Both, moreover, have won considerable distinction by their work in abstract science,—Dr. Maclaurin in mathematical physics and Dr. Nichols in experiments of such delicacy as those involved in measuring the heat that comes from distant planets. At Columbia both these men belonged to the Faculty of Pure Science. They are, in the strictest sense of the word, scientific specialists.

It is certainly extraordinary that two educational institutions of New England, which for months have been searching for men of practical efficiency, wide culture, and grasp on complex educational problems as administrative heads, should finally decide that they had found them among specialists in pure science. Although it is not surprising that a technical school should choose a scientist as its president, it is unusual that it should choose a man whose achievements lie in the domain not of applied but of abstract science, and it is the more so since the Massachusetts Institute of Technology has based its curriculum on the belief that a technological training can be accompanied with education for culture. And, if the action of "Tech" is unconventional, certainly that of Dartmouth, in which the arts course is central, is still more unconventional.

The fear has often been expressed that specialization in study, which has become more and more common, will make impossible the development of men of broad interests. In particular the growth in importance of scientific studies in comparison with the old "humanities" has been accepted as a sign of the disregard of the finer elements in civilization. A great many people have honestly felt that our whole college system was becoming materialized, dehumanized, hardened and narrowed, because to a great degree students were choosing to follow special lines of scientific study. In place of the old ideal of the cultivated mind there has seemed to many to be obtruding the ideal of a narrow mind intent on a minute field of knowledge and oblivious of the great areas of human feeling and experience.

The fact that such men as Dr. Nichols and Dr. Maclaurin have found the experience of the specialist good training for a position requiring breadth of mind and knowledge of men is significant. It indicates that the traditional course in the "humanities" is not the only means for the cultivation of the mind.

Certainly, modern science fosters certain high qualities of mind that the

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older studies could not develop. Accuracy, impartiality, absolute sincerity, open-mindedness and patience are some of the qualities which must grow in a man through habits of scientific research. Moreover, scientific study, when properly pursued, must stimulate the creative imagination and must nourish that adventurous spirit which is one of the finest traits of the race, one that profits as truly as any other trait by the process of education. And surely nothing more amply rewards the love of learning than the results of intelligent and laborious scientific study. Even in the days that now seem to belong to antiquity, from the time of the Magi to the time of Faust, natural science was an abode of scholars. Even in these days there is nothing absolutely novel in the fact that science produces men of cultivation. Mr. Eliot, who has just laid down the presidency of Harvard, stepped into his place of leadership from a chair of analytical chemistry. Nevertheless, the place which science may have and is coming more and more to have in general education is newly and strikingly exemplified in these two recently chosen college presidents.—*The Outlook.*

The American college commencement season this year has been notable for new college presidents. At Harvard Dr. Lowell was beginning his administration, though his formal inauguration will not take place till next October; at Dartmouth, just before the closing days of the college year, there was announced the election of Professor Ernest Fox Nichols as successor to Dr. Tucker; at Union College, Schenectady, a new president was inaugurated,—the Rev. Dr. Charles Alexander Richmond; at the Massachusetts Institute of Technology, the inauguration of Professor R. C. Maclaurin. Of these four, only one comes to the college presidency by the traditional way of the ministry. Of the other three, two have attained an extraordinarily high standing in the realm of pure science.

Dr. Maclaurin was born in Scotland, brought up in New Zealand, educated in English schools and at Cambridge University. He became professor of mathematics at Wellington, New Zealand, and was afterward made a trustee of the University of New Zealand. He has the rare distinction of being a prize winner at Cambridge in two such separate subjects as law and mathematics. It was, therefore, not at all inexplicable that he became in time dean of the Law Faculty.

Dr. Nichols' career has been also unusual. He was born in Kansas and received his Bachelor's degree (that of Bachelor of Science) at Kansas Agricultural College. He studied later at Cornell, from which he received both the Master's and the Doctor's degree in Science. He has won great distinction in the scientific world by his success in measuring planetary light and heat.

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Both of these men go to the college presidency from the faculty of Columbia University, and, as it happens, both of them, at the time of their election to the presidency, occupied chairs in physics. Dr. Maclaurin was professor of mathematical physics and Dr. Nichols was professor of experimental physics at Columbia.

The reason, however, why these men were selected for their respective positions is not to be found in their distinction as scientists, but in their ability as educators. The fact that Dr. Maclaurin was trustee of the University of New Zealand and was dean of the Faculty of Law indicates the measures of administrative ability. In fact, his service in organizing technological education in New Zealand makes it easy to understand why he has been chosen as the head of one of the great—if not itself the greatest—of all the technological schools in the United States. Likewise Dr. Nichols has been not merely a remarkable scientific investigator, but an expert administrator and organizer of educational forces that has made him recognized as distinctly well fitted for the presidency of Dartmouth.

The election of these two men shows that training in scientific knowledge is today regarded as in no wise unfitting a man for a high place of educational leadership. This was not always so. Indeed, it has not long been so. It is true that Dr. Eliot went to the presidency of Harvard as a teacher of science, but he was at least a Bachelor of Arts. The new president of Dartmouth holds no arts degree. Educated men are beginning to recognize that there are other roads to culture and wisdom than that which leads only along by the way of what used to be called the "humanities."—*The World's Work, August.*

The inaugural address of the new president of the Institute of Technology was interesting primarily to educators. From it they gathered the point of view of the new administrator on important divisive issues in education. They learned of the temper of the man, his processes of thought, his human ideals and his social sympathies. But there were other classes in the community who were interested in it, watching for any hints it might convey as to the aid they might derive from the coming of a man so widely travelled, so much experienced in observation of differing forms of government and so conversant with law, as well as with science. One such group was that of alert, wide-visioned, ambitious business men, eager not only for their own prosperity, but also for that of Boston and New England. Another group was that of civic reformers, whose ideals of government are not doctrinaire, but practical, who aim for efficiency and for conservation of resources, who are indifferent to past shibboleths or party cries, but who want Boston to profit by the best ideas and ideals of government wherever

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practised. Was there anything in President Maclaurin's address to lead either or both these groups to believe that in him they have an ally? There was, and it is found in a passage which, coming from a Briton by birth and training, and read in the light of antiquated British methods in meeting German competition, has peculiar significance. President Maclaurin said:—

"Science has already profoundly changed the conditions of our life, and it may not be so very long until its method and its spirit permeate our modes of business and of government. . . . These great problems of production and distribution which the energy of a great industrial nation makes of paramount importance . . . are mainly scientific problems, although half a century ago, when this Institute was founded, it was only the far-seeing that had any glimpse of this, and very few among these that had any adequate conception of the mighty change that science would effect in the industrial problems of the world. Where such matters are concerned, energy, courage and doggedness are no longer enough, as they once were, to win the fight. With science they profit nothing, and are no more availing by themselves than is the dauntless courage of the savage in the face of a modern gun.

"The quickness with which the different nations grasped this vital fact might be used as a touchstone of their intelligence, and it is almost pathetic to observe the bewilderment of some of them who are just awakening to the knowledge that they must even now face a new heaven and a new earth."

An educator who can thus define the part that applied science and the use of the scientific method are to play in all business and in all government of the future is bound to aid Boston, Massachusetts and the United States in any efforts they may make to secure more efficient industrial, transportation and governmental operations. With President Lowell at Harvard, a business man and a past master in comparative government, and with President Maclaurin at "Tech," a believer in science serving the state to the full, Boston may count on fine team work in behalf of her highest ideals and fondest hopes.—*Boston Herald, June* 11.

Two years ago those sanitarians whose minds were still unsettled as to the danger of the spread of communicable diseases through air escaping from sewers or from plumbing systems were disturbed by a report on the results of bacterial tests with sewer air made by Major Horrocks at Gibraltar. Outside of Great Britain, where the dangers from sewer air have always been grossly exaggerated, Major Horrocks' report made no very great stir. At the same time it was sufficiently disconcerting to warrant a careful survey of the whole literature of bacteria and sewer air, and also to warrant further investigations of the subject. Such investigations, which in

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this country, at least, bid fair to be final, have been made by Professor C.-E. A. Winslow, of the Sanitary Research Laboratory of the Massachusetts Institute of Technology. A critical summary of the literature of this whole subject, and also a summary of Professor Winslow's conclusions based on both previous experiments and his own, will be found elsewhere in this issue. The matter which we reprint forms only a small part of an extensive pamphlet, which we commend to the consideration of any who wish to go further into the subject.

Professor Winslow and the National Association of Plumbers, for whom the studies and pamphlet report were made, both deserve commendation for making available in convenient form a summary of all that has previously been done and written on the subject of sewer air and bacteria. They deserve even greater commendation for the important and convincing series of tests made by Professor Winslow.

It seems unnecessary to attempt to add anything to Professor Winslow's comments on the needlessness for much concern over the dissemination of disease germs by sewers and plumbing. We hope that his pamphlet will be widely circulated in Great Britain, and that the lessons which it teaches will be duly appreciated there. We are pleased to note that already the London *Surveyor* has expressed approval of Professor Winslow's conclusions. It is only fair to the *Surveyor*, however, to say that it has heretofore taken a rational stand on the spread of disease germs by sewer and plumbing air.—*Engineering News, September* 2.

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BOOK REVIEWS

A SHORT HANDBOOK OF OIL ANALYSIS. By Augustus H. Gill ('84), S.B., Ph.D. Fifth edition. Philadelphia: Lippincott & Co. $1.50.

A book on chemical analysis which has five editions in twelve years is very nearly beyond criticism. Fault-finding is disapproved in advance, and praise is but gilding the refined gold of royalty. But a man so generally popular as Dr. Gill gets all the praise that is good for him, anyway, so it may be observed that there are some things in which this book may yet be improved. The illustrations are better than none, but not much; and the directions for using flash-test apparatus are not quite as complete as a beginner ought to have. It should always be remembered that a metallurgical or cement chemist, for example, skilled in using ordinary apparatus, may know nothing at all about a flash-test; and it is in little details that the manipulation of the expert excels and has its greatest value. In most cases the directions given in this book are full and clear.

The inclusion of refractive indices would probably be generally approved, since the refractometer has come into general use. In general, the book would be better if there were more of it, and, while its value is partly due to leaving out information not useful to the analyst, some further remarks as to the nature of the various oils, as well as to changes produced by reagents, from one so experienced as the author, would be of much use to the student.

Somewhat more than half of the book is given to physical and chemical tests. Then there are descriptions, including preparation, uses, tests and constants for the chief petroleum products, for seventeen vegetable and nine animal oils and certain waste fats and greases. There is an appendix of tables and other information. The book has been largely rewritten and has a good index. It appears to be free from typographical errors.—A. H. SABIN, *in Science*.

FOR THE NORTON NAME. By Hollis Godfrey ('98). Boston: Little, Brown & Co.

Godfrey's "Man who ended War" was reviewed last January. Since then he has published an Elementary Chemistry; and now comes another story, "For the Norton Name." Even such a strenuous writer has not, however, written all three books within a year. The present volume is

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reprinted from the *Youth's Companion*, and is primarily intended for boys. It recounts the struggle of a young man who has suddenly succeeded to his father's business against a wicked trust which is trying to crush it out of existence. The trust exhibits subtlety and resource such as Ida Tarbell never dreamed of. Yet the hero, almost single-handed, foils his enemies, adroit lawyers and financiers, corrupt sheriffs and rural desperadoes. Normal boys should find the book utterly absorbing; and older persons who, like the reviewer, care for "stories," will do the same. Best of all, this is the first of a series, "Young Captains of Industry," and we are introduced in one of Norton's few allies to the hero of the succeeding volume. Godfrey seems in fair way to be the Oliver Optic of the future. It is to be hoped that some of the future Captains of Industry may be young Tech graduates surrounded by the atmosphere of the school which Godfrey could draw so well.

C.-E. A. Winslow.

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NEWS FROM THE CLASSES

1868.

PROF. ROBERT H. RICHARDS, *Sec.*, Mass. Inst. of Tech., Boston.

Professor Richards spent a large part of the summer in the West, and, when at Denver, was entertained in a charming way at the University Club by the Tech men in that vicinity. The reunion was an inspiring subject of conversation as well as the future plans for Tech. Among those present were: Frank E. Shepard ('87), Maurice B. Biscoe ('93), Robert Clary ('00), Albert C. Dart ('01), Joseph Y. Parce ('93), W. C. Brace ('87), Henry B. Hallowell ('07), A. H. Low ('76), Henry H. Hewitt ('99), Edward S. Wiard ('99), John M. McMillin ('07), Willard V. Morse ('02), J. B. Benedict ('99), C. L. Dean ('05).—When at Ray, Ariz., in July, Mr. Ralph B. Williams invited the Tech men of Kelvin and Ray to meet Professor Richards. The evening was delightfully spent singing Tech songs and talking of Tech matters. There were a number of other colleges represented besides the Institute. The Tech men present were: Frederick W. Snow ('00), Ralph B. Williams ('04), L. A. Loomis ('09), Guy H. Ruggles ('06), H. C. Schriefer ('09), John G. Barry ('07), C. A. Gibbons, Jr. ('08), George M. Henderson ('06), E. A. Thornton ('07), Lloyd T. Buell ('05). At McGill, Nev., and at Great Falls, Mont., he engaged in some lively tennis games with his metallurgical friends, and on returning home had a week of tennis at Randolph, N.H.—Ernest O. Saltmarsh is superintendent of the Pensacola Division of the Louisville & Nashville Railroad Company of Pensacola, Fla. In a letter received from him he expresses much regret that he could not avail himself of the opportunity to attend Mr. Bowditch's reception to recall old class acquaintances and remembrances during the reunion in June.—Eben Stevens had a rather strenuous time at the reunion festivities, but has spent a pleasant summer recuperating at his summer cottage at Weekapaug, R.I.—C. B. Fillebrown writes that he cannot well say anything without talking shop. He says that after a dozen years' devotion to what he thinks "the next to the greatest thing in the world," in writing a little book, "The A, B, C, of Taxation," and a model Single Tax Catechism, has just taken his first real

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vacation,—a three weeks' automobile trip with friends through Maine and the Eden of northern Vermont, flowing with milk and maple syrup.—Daniel M. Wheeler, who is one of the Board of Railroad Commissioners for the Commonwealth of Massachusetts, writes as follows from Springfield, Mass.:—

The writer, who travels extensively in western Massachusetts, made a visit to Bash au Bish Falls this summer. And now he fancies that he can hear ninety-nine out of every one hundred Tech men exclaim: "Where are Bash au Bish Falls? We never have heard of them before." Well, then, it is time you heard of them, or, better still, time that you saw them. In the small town of Mount Washington, at the south-west corner of the state, two streams, coming one from the north and the other from the south, unite about one mile east of the New York line, and run westerly through a deep ravine between Cedar Mountain on the north and Bash au Bish Mountain on the south to a point only a few feet east of the state line, where the united waters plunge over a perpendicular ledge from the foot of which they make their way to the Hudson River. A steep, narrow and crooked road clings along the north side of the ravine far above the roaring torrent below. At the top of the falls there is an immense pointed rock, seemingly perched upon an insecure foundation, and this rock divides the water into two separate streams which fall into the same basin below. But the beauty and grandeur of the scene are not wholly or mainly in the falls themselves. The wild narrow gorge with perpendicular sides perhaps two hundred feet high, the swift and tumultuous rapids above the fall, the "crow's nest," so called, hidden high upon a rock shelf in the side of the gorge and the wooded sides and summits of the mountains, all combine to render the scene one of the wildest and most picturesque in the state. The total descent in falls and rapids within a few hundred feet is more than two hundred feet, and within one mile about four hundred feet. From the level country a mile or two west, near Copake Iron Works, a fine view of the mountains and the gorge from which issues the Bash au Bish can be had. Like many other Berkshire scenes, this beautiful spot is almost unknown to most persons in the eastern part of the state, and the writer will be glad if by this short account he may be able to induce others to see for themselves these wonderful works of the Creator.

—The secretary has a pleasant personal note from William Jackson, city engineer of Boston.—Channing Whitaker says that he has been slowly, but steadily regaining his health, and he now finds himself able to do some athletic stunts that surprise the members of his family.—Bryant Tilden, who is away up in Jamestown, N.D., writes he has been busy building *mud* roads for the county, and, as he is much in the open air, his health is excellent. He was much interested in the REVIEW containing pictures of the reunion, and he was sorry indeed he could not have been in the "mix-up."

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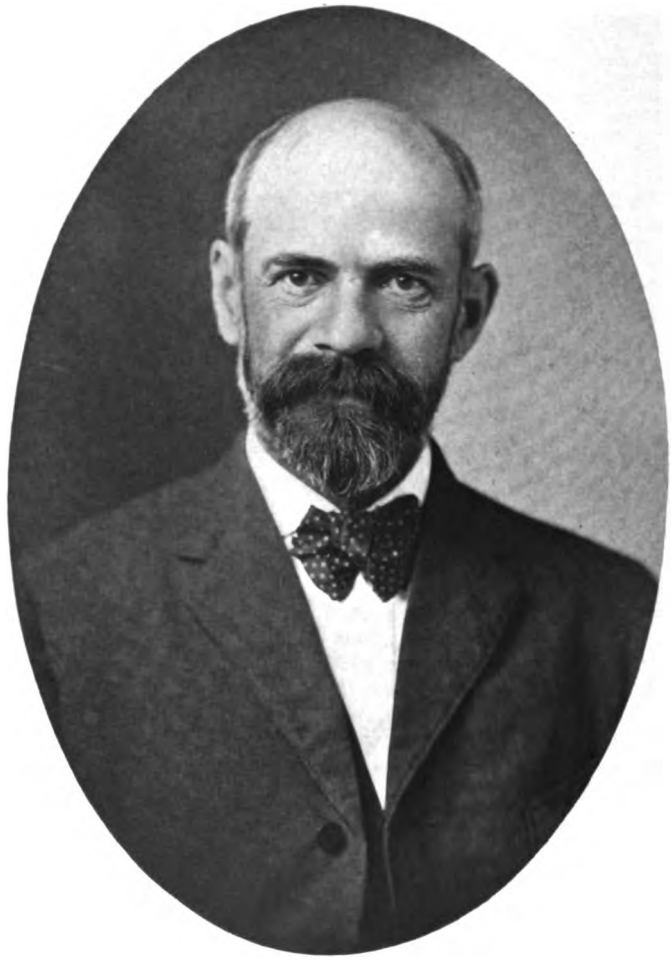

EUGENE LESTER TEBBETS, '69

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1869.

HOWARD A. CARSON, *Sec.*, 79 Glenwood Street, Malden, Mass.

Eugene Lester Tebbets died at his home, May 28, 1909. He suffered an attack, which rendered him unconscious, while at work in his office at Locke Mills, Me., on the first day of last April. After about ten days he was able to make the journey to his home in Auburn, where for a time he appeared to improve, but later a change for the worse set in, followed by unconsciousness. His physicians believe his illness was caused by too close application to business. Mr. Tebbets was born in Lisbon, Me., June 6, 1849, the son of John G. and Clara A. (Bucknam) Tebbets. His grandfather, Paul C. Tebbets, settled in Lisbon during the first decade of the nineteenth century, and became a prosperous merchant there. E. L. Tebbets was educated at Edward Little Institute in Auburn, going thence to the Institute of Technology. Thirteen years ago he purchased a residence at No. 17 Prospect Street, Auburn, which was thenceforth his home. He married on Sept. 4, 1873, Lizzie C. Morton, of Augusta, Me., who with three sons, Charles B., Eugene L., Jr., and Donald H., survive him. After completing his studies at the Massachusetts Institute of Technology with the Class of 1869, he engaged in civil engineering, and for about six years was attached to the engineering department of the Maine Central Railroad. He was then connected with the accounting department at the general office in Portland, Me., for six years. The close confinement injuriously affected his health, and he sought recuperation by returning to the practice of his profession for about six months, devoted to railroad engineering in California. In 1882 he became associated with his father, the late John G. Tebbets, in the manufacture of spools at Lock's Mills, Me. Upon the death of the elder Tebbets, in 1892, he assumed entire charge of the business. By the introduction of exact business methods, energy, business prudence and foresight, he developed and gradually enlarged his manufacturing operations, until the plant of his company for the manufacture of spools and wood turnings became the best equipped in that section, and had no superior throughout the state. As a student, he was capable and earnest, and his appreciation of the right, his modesty, his keen sense of humor and his sympathetic nature made him many warm and lasting friends. In his business life Mr. Tebbets was actuated by the finest sense of integrity and honest dealing. In his relations with his employees, he was considerate, courteous and just, esteemed

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and respected by those who faithfully served him. He devoted his time and efforts freely to the interest of the community in which he lived, and while occupying various municipal offices, for which his services were sought by his fellow-townsmen, he placed the financial affairs of the town of Greenwood on a substantial basis. His ideals of civic duty were high. The standard of integrity which he fixed for dealings between individuals he applied to the community. His taste for literature was cultivated by familiarity with the best writers. His sympathies were wide, and his friendships intimate and enduring. (Sketch furnished mainly by John A. Morrill.)

1874.

CHARLES FRENCH READ, *Sec.*, Old State House, Boston, Mass.

Herbert Barrows, a graduate of the Institute in 1874, and a member of the Class Association, died in Hingham, Mass., June 7, 1909. He was the oldest child of William Barrows and Elizabeth (Cate) Barrows, born at Grantville, Mass., Aug. 1, 1852. In 1856 the family moved to Reading, Mass., which continued to be the home of Herbert Barrows for substantially the rest of his life. He graduated at the Reading High School in 1870, immediately entering M. I. T. As a boy, he had a decided inclination towards mechanics, and selected without hesitation the civil engineering course at the Institute. The Jay Cooke panic of 1873 paralyzed general development for some years, and forced him into other lines of business, so that he never followed his profession except as an incident of other occupations. In 1882 he married Katherine Watts, of New York city, who died in February, 1904. In June, 1905, he married Anne Burr, of St. Paul, Minn., who survives him. There were no children of either marriage. During the last four years he lived at Hingham, Mass.

1883.

HARVEY S. CHASE, *Sec.*, 84 State Street, Boston.

In the interests of science and to settle this unfortunate arctic controversy, the Class of '83, with its customary activity in the cause of humanity, has prepared to go to the pole and demonstrate that neither of the alleged arctic explorers has ever been there. We start immediately in Wrong's Patent Aëroplane, from the top of the

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Rogers Building, just after provisioning on Thanksgiving turkey. Wireless apparatus has been installed at the Tech Union, and constant communication will be provided with *The Tech* and THE TECHNOLOGY REVIEW. Applications have been pouring in from other classes to accompany '83, but this trip is exclusive. All other classes will have to turn their attention to the South Pole. All details copyrighted and syndicated in advance. Keep your eye on the real old pole.

1884.

HARRY W. TYLER, *Sec.*, Mass. Inst. of Technology, Boston, Mass.

Colonel D. A. Lyle since his retirement has been living abroad, more recently at Lucerne, with his wife and daughter.—A. W. Whitney has recently changed his professional connection, and is now with the Enterprise Foundry and Machine Works of Bristol, Tenn., and Virginia, who have installed modern equipment for the manufacture of car wheels and mine cars.—Professor A. L. Rotch was elected to honorary membership in the Harvard Chapter of the Phi Beta Kappa Society in the early summer.—Mr. Rotch's book, "The Conquest of the Air, or the Advent of Aërial Navigation" (Present-Day Pioneers, Moffet, Yard & Co., New York), is just published. All observations in the free atmosphere now have a practical value for aëronauts and aviators. At Blue Hill Mr. Rotch is beginning a series of ascensions of pilot balloons to determine the direction and velocity of the air-currents at different heights, in various weather conditions. More sounding balloons will be sent up from Pittsfield in December, to ascertain the temperature at great heights. One of his balloons has brought down data from eleven miles. He is to give a talk on Aërial Navigation at the Tech Union next month.

1885.

I. W. LITCHFIELD, *Sec.*, Mass. Inst. of Tech., Boston, Mass.

The greatest event in the history of the class will occur next June when we celebrate our twenty-fifth anniversary. At the annual dinner of the class in April, Little, Pierce, Morss, Richards, MacRae and Pickernell were appointed a committee to act with President Fred Kimball and the secretary in arranging for the reunion.

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The advisory committee consists of Morss, Pratt and Fiske.—It is a foregone conclusion, of course, that the reunion will occur in June, and that we will enjoy the delightful courtesy of Dr. Shubmehl at his camp on Squam Lake. Those who experienced the delights of Camp Walker have been looking forward to this occasion with great anticipation for the last four years. At that time we had present about twenty-two men. Next year, however, we have reason to believe there will be at least thirty-five or forty. Although the log of Camp Walker gave but a feeble idea of the pleasures of the reunion, it made an impression on some of our distant members, who made a vow that no combination of circumstances would deter them from the 25th. The committees are already making preparations for the event, and a tentative canvass of the members of the class will soon be made, in order that we may know about how many to expect.—Morris Wilder was in Boston recently on his way back from Biddeford Pool, Me., where he has been passing the summer. He was accompanied by Mrs. Wilder and their two sons. Morris has marked a red line around the month of June, 1910, and is prepared to reserve any week that may be selected for the twenty-fifth anniversary.—Merrill has recently heard from Heywood Cochrane, who is manager of the Chicago office of the Carbondale Machine Company, 1013 Manhattan Building, Chicago.—Tom Fry is a member of the New Hampshire House of Representatives,—a new responsibility which is proving an interesting experience. For four years he was a member of the High School Board. He was chairman of the Building Committee of the Carnegie Library of Claremont; and is trustee of the Claremont Savings Bank. Tom did not tell us this. We saw it in "Who's Who in New England."—Reddington Fiske is now located in Boston. His office is 50 Congress Street. For a number of years he was away from the city, and we missed him at our reunions.—Henry A. Magoun is vice-president of the New York Shipbuilding Company, Camden, N.J.

1886.

ARTHUR GRAHAM ROBBINS, *Sec.*, Mass. Inst. of Tech., Boston, Mass.

It is with great sorrow that the secretary reports the death of our classmate Edward Shove. One of his classmates has written the following sketch of his life and work since we knew him at Technology:—

Shove spent only two years at the Institute, taking the mechanical engi-

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neering course. After completing the second year, with a high standard of scholarship, he determined to spend a year in studying the practical side of the manufacturing business, and connected himself with the Granite Mills in Fall River, anticipating at that time a return to the Institute to complete his course in mechanical engineering. Becoming engrossed with his work at the mill, this plan was given up. After three years he made a trip to Europe, and, returning, he made connections with the South, and engaged in the business of selling cotton, in which he was very successful. In 1892, yielding to urgent requests to accept the treasurership of the Mechanics Mills, then vacant, he accepted that position, and there continued until 1905, when on account of failing health he resigned. He then spent a year or more in travel and in recuperation at his farm in Tiverton, R.I., after which he interested himself in the development of certain mechanical patents. In 1907 he returned to Fall River, and took up again the business of selling cotton, in which he was engaged until June 1, 1908, when failing health compelled him to relinquish it. His death occurred July 27, 1909, from brain tumor, which, the doctors state, had been several years in developing. In 1892 he married Sarah Elmendorf, daughter of the Rev. Joachim Elmendorf, of New York. His widow and two daughters survive him.

His recreations were yachting and the development of his farm in the country. Devoted to his family, he nevertheless found the time to interest himself in the social life of the community. His training made him an authority in all branches of the cotton industry.

1887.

EDWARD G. THOMAS, *Sec.*, 157 Congress Street, Brooklyn, N.Y.

A. L. Cushing is now a member of the firm of B. W. Ewing & Co., commission merchants, at No. 73 Fifth Avenue.—Vose has been moved to the sanatorium of Dr. Weed in Saxonville, Mass.—Spaulding has become connected with the selling department of the Yale & Towne Manufacturing Company, with headquarters at 7 Warren Street, New York.—Sprague made a trip to Vancouver in July, investigating a coal property in British Columbia.—Burgess gave recently at the Fifth Avenue Theatre, New York, a trial performance of his "mimeologues," written for Miss Estelle Loomis. He states that the mimeologue is a new form of dramatic construction adapted for vaudeville entertainment, being a combination of monologue and pantomime. It is, in effect, a little play performed by a single person upon a draped stage, without properties or change of costume. He also published a story in the October number of the *Smart Set*.—Henry M. Steele, of the Class of '87, died at Asheville,

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N.C., on July 5. After leaving the Institute in 1885, he was for a time connected with the Civil Engineering Department of the Erie Railroad. Later he became engineer for the Hall Switch & Signal Company, and was with them for some time. His health became impaired, and after his marriage to Miss Margaret McKim, of Baltimore, he went South, and lived for a time in Asheville. Upon recovering his health, he became chief engineer of the Central of Georgia Railroad, with offices at Savannah. This position he held for a number of years until his return to New York three or four years ago as civil engineer of the J. G. White Company. This position he held up to last winter, when, his health again failing, he went to Bermuda, returning after a few weeks and again trying Asheville; but this time his hard work and close confinement with the J. G. White Company had so far affected his health that Asheville did not give him the expected improvement, and he died there on July 5. Steele had a most engaging personality, and was everywhere popular. In the Institute he was active in all class affairs, and held several class offices. He leaves, beside Mrs. Steele, three children.

1888.

WILLIAM G. SNOW, *Sec.*, 24 Milk Street, Boston, Mass.

Fred J. Wood has resigned from the Boston & Providence Interurban projected line, and is now with the Boston Elevated Railway. —The Shawmut car, in the manufacture of which Newton and Roberts are interested, made a fine showing in the trans-continental race between New York and Seattle in connection with the Exposition in the latter city.—Several of the properties under Stone & Webster management have paid initial dividends on the common stock within the past few months, showing the improvement in business conditions and reflecting the able management of the properties.—William G. Snow presided at the semi-annual meeting of the American Society of Heating and Ventilating Engineers at Indianapolis in July.

1889.

PROF. W. E. MOTT, *Sec.*, Carnegie Technical Schools, Pittsburg, Pa.

After seven years' service with the Big Four Railway as superintendent of construction and later as chief engineer, during which

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time extensive improvements costing in the neighborhood of sixteen and a half million dollars were made, W. M. Duane is now engaged, as vice-president and general manager of the Wabash Construction Company, Davenport, Ia., on heavy construction work for the Buffalo, Rochester & Pittsburg Railroad, second track work for the Missouri Pacific and West Shore Railroads, and on third track construction for the Boston & Albany Railroad.—Hollis French has a daughter, Rue Elizabeth, born Aug. 28, 1909. French and Hubbard have been appointed consulting engineers for the heating, ventilating, electrical work and plumbing of the new municipal buildings for Springfield, Mass.—Schuyler Hazard has resigned as resident engineer for the New York Constructing Company on the Pennsylvania Terminal, New York city, and has become general manager and chief engineer in charge of production, sales and engineering of the Orleans County Quarry Company, Albion, N.Y., producers of Medina stone.—Walter H. Kilham has been enjoying a six weeks' vacation in Paris and touring by automobile through France.—Albert Sauveur, who has recently returned from a year spent mainly in Paris, Italy and Switzerland, was made, while in France, an *Officier d'Académie*.—G. C. Wales is busy with the plans for a large mansion in Idaho.—W. E. Mott has resigned from the Institute of Technology to accept the professorship of civil engineering, Carnegie Technical Schools, Pittsburg, Pa., and has removed to that city.—The Class Book is ready for the printer, and due notice regarding its scope and price will be sent to each member of the class.

1890.

GEORGE L. GILMORE, *Sec.*, Lexington, Mass.

In response to an invitation from Mr. and Mrs. H. P. Spaulding to visit them at their bungalow, "The Waubeek," at East Gloucester, the following members of the Class of '90, with ladies, met at the Boston Yacht Club float on Wednesday afternoon, July 7: Mr. and Mrs. E. F. Bragg, Mr. and Mrs. J. O. DeWolf, Mr. and Mrs. G. L. Gilmore, Mr. and Mrs. B. A. Lenfest, Mr. and Mrs. G. A. Packard, Mr. and Mrs. T. N. Tripp, Mr. H. B. Burley, Mr. William Mossman, Mr. L. C. Wason and Colonel Charles Hayden. Colonel Hayden's tender was waiting, and the entire party was soon on board his steam yacht, "Wacondah," that took so important a part during the Technology reunion. A most delightful trip was

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enjoyed along the shore, and after a short two hours the party landed at Gloucester, and were met by Mr. and Mrs. Spaulding and Miss Peggy. A delightful afternoon was spent on their piazza and grounds overlooking the sea, with a '90 banner waving in the breeze. Mrs. L. C. Wason joined the party here, coming by auto. It was the unanimous opinion of all that in future the ladies should be present at all gatherings of '90. After a piazza supper the party returned in the yacht by twilight, and voted the afternoon a grand success, thanks to our host and hostess and Colonel Hayden, the only regret being that more of the class were not present.—In the Eastern Yacht Club cruise in July the Wacondah cups, presented by Colonel Charles Hayden, were raced for, and the squadron ran from North Point to Bar Harbor, two cups for schooners and two cups for sloops and yawls.—Colonel Charles Hayden is a director in the China Copper Company as well as the Utah Copper Company.—Mr. F. P. Royce is now with Stone & Webster.—Mr. Charles F. Fitts is in the Railway Exchange, Chicago, Ill.—Mr. and Mrs. H. M. Goodwin left for California early in July with Professor Hale, who had just returned from Europe. Since then Mr. and Mrs. Goodwin have been travelling north to Seattle, and returned East through the Canadian Rockies.—Mr. Guy C. Emerson, superintendent of streets of Boston, has signed a contract with the Rising Sun Street Lighting Company, to go into effect after September 15, by which the company is to furnish gas and care for the lamps at $23.61 per year. The price under the old contract was $24.96. The new contract is an extension of the old one, and will expire Feb. 1, 1910.—In a ball game played at Pittsfield August 23, in which Senator Crane captained one team and his son, Winthrop M. Crane, Jr., the other, the Rev. Franklin Knight, rector of the New Haven Episcopal church and a member of the Class of '90, played outfield on the senator's team. In a rush to catch a long fly hit, Frank came in contact with the Rev. Herbert S. Johnson, of the Warren Avenue Church, Boston. As the Rev. Mr. Johnson was about double the weight of Frank, the results were disastrous to our classmate, and he retired from the game with a black eye and a lame leg, but is undoubtedly ready by this time for another match. Frank had his early practice in the annual games between the civil engineers and the mechanical engineers during the last years of '90 at Tech.

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1891.

HOWARD C. FORBES, *Sec.*, 88 Broad Street, Boston, Mass.

Plans for our twentieth anniversary—1911—are under way. The committee appointed last June have met, and divided the work among five sub-committees, as follows: general arrangements, Bradlee, chairman, Fiske and Wilson; amusements, Forbes, chairman, Dart and Trowbridge; publicity, Alley, chairman, Bird and Douglass; finances, Cunningham, chairman, Wilder and Bowen; Class Book, Garrison, chairman, Aiken and Forbes.—Charles P. Weatherbee is connected with the Bath Iron Works as superintending engineer. This company has just built for the United States two torpedo boat destroyers, the "Flusser ' and the "Reid." Weatherbee writes in regard to the "Flusser":—

The vessel was outlined and designed by the Navy Department with reciprocating machinery; but we felt that turbine machinery would be better for high-speed work, and so our ocmpany bid on Parsons turbine machinery, and the bid was accepted. This change in the machinery necessitated redesigning the vessel with regard to the arrangement of the boiler and engine rooms. Also it necessitated making alterations in the model of the aft body to permit installing a centre shaft and to give proper flow of water to its propeller. My own part of the work brought me in personal contact with all the above matters. The performance of the "Flusser" in its trial run showed a speed of 32.9 knots, with a maximum horse power of 14,600.

Under the heading of "The Fastest American Warship" the Boston *Transcript* of Oct. 6, 1909, gives the following account of the "Reid":—

A magnificent record was made by the torpedo boat destroyer "Reid" today in her first official acceptance trial. It was her standardization test and she made her fastest mile at the rate of 34,548 knots per hour, which was nearly a knot better than her sister ship (the "Flusser") did on the same test a month ago. Both craft are products of the Bath Iron Works. The mean of the top-speed runs of the "Reid" to-day was 33.75, an eighth of a knot better than the "Flusser" did. The "Reid" also made the fastest standardization record in the world; that is, the shortest time was required to complete her standardization test. She entered the course at 6.10 A.M., and made 22 runs before 9 A.M. Conditions were fine, and everything worked splendidly on board. She developed a shaft horse power of a little better than 15,000, being about 1,000 more than that made by her sister ship "Flusser." The trial was under the direction of Superintendent Engineer Charles P. Weatherbee, of the Bath Iron Works.

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—Leonard C. Wason, president of the Aberthaw Construction Company (concrete engineers and specialists in concrete construction), writes as follows:—

The big fires, earthquakes, together with the printed discussions in all kinds of papers which followed, have brought concrete construction into very general use. It now often is given a preference in price where something cheaper would be good enough. I have shared in this boom of reinforced concrete construction. It is mostly mill work, which indicates a vast increase in manufacture over the past busy years of industry. I am at present building about 100,000 square feet of floors for Carter's Ink Company, Cambridge; 110,000 square feet for Winchester Repeating Arms Company, New Haven; 110,000 square feet for Pierce Arrow Motor Car Co., Buffalo; 20,000 square feet for the Hood Rubber Company, Watertown; and an eight-story furniture warehouse in Portland. All the above are general contracts for completed buildings. The Pierce and Hood jobs are mere beginnings of vast extensions. I have completed this year three mills for Boston Insulated Wire and Cable Company, one for Converse Rubber Company, a pulp mill at Parsons, W. Va., and minor work on twenty other mills, also two office buildings, one eight stories, 96,000 square feet floors. The above indicates to me a general increase in manufacturing business throughout the East. I do the outside superintending, and am travelling about fourteen hundred miles a week. Eating and sleeping is an incidental recreation, when there is time. It is the busiest year I have yet had. You can tell '91 that the merits of reinforced concrete are now so firmly established that, like Pitcher's castoria, "the children cry for it, while the old folks *will* have it."

—Arthur Howland, vice-president of the Stuart-Howland Company, whose business is "Everything Electrical," reports general business good. His company has established a special department to supply electrical goods for automobile and motor-boat work, and have issued a special catalogue thereon. This business has increased enormously in the last two years. Their store is equipped with a wireless outfit, and they offer to the trade a simple device for receiving messages. The sending apparatus, however, is more complicated, and requires considerable power. Howland has taken out a patent on a combination electric tail light and number holder for automobiles.—Lewis F. Verges, who is interested in sugar plantations in Porto Rico, is in Boston at present, and writes as follows:

The sugar industry of Porto Rico has progressed by leaps and bounds since the American occupation of the island. From sixty thousand tons of sugar per year, as in 1897, the island is now producing two hundred and fifty thousand tons, and the production bids fair to increase with the use of better machinery, better cultivation and irrigating.

The field is undoubtedly limited, as the island is small; but the demand

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for bright men, capable of managing large plantations, is very great. Technology men should be well qualified to take up such positions after serving some time in the chemical or engineering staff of a plantation. There is much room for improvement in the cultivation and manufacturing of sugar cane, and, while much has been accomplished within the last twenty years, the future is still very promising. This is especially true of the agricultural work, where I look forward to great improvements coming from the selection of seedlings and more intensive agriculture. In the manufacturing line we are adopting, as fast as possible, the most modern methods, and this necessarily means great outlay of capital, as sugar machinery is very heavy and expensive.

—Fred A. Wilson, of J. T. Wilson & Son, building contractors, has been abroad in the late summer, and writes as follows:—

I wrote you some time since that I was off for a seven weeks' vacation.

Three men, leaving wives behind, sailed out on the "Lusitania" on August 18, and soon skipped from the "land of the free" to the "land of the fee." (Our wives really sent us, so we would get the habit.) In England and Scotland we visited London and Edinburgh, with a day or two around Warwick, Stratford district. Then from Harwich to the Hook on a boat that was pivoted, so she could roll around and around. Then came a few enjoyable days passing through smaller places, until we arrived at Munich. Here it took us only an hour to find a man could go three quarts and not notice it. We finally got into the "durned old waterlogged town," where Daniels managed to hold us for a few days until we could tolerate no more. Then in Switzerland we found another kind of roast in excess baggage fees, and so finally we reached Paris. Here, not having our wives along, we did not dare to go out far by night, and so we missed what "they say" is the most notable side of life there. We rolled home on the "St. Paul," reaching New York in time to be again stabbed by the temporary enlargement of cab fees, due to the Hudson-Fulton celebration. As we took care to buy our return passage before leaving Boston, none of our people feared we wouldn't get here, however. Had a fine time, two good travelling companions and lots of fun. My two friends, alas! are not Tech men, but they were good men all the same.

—Stephen Bowen was abroad early in the summer, and thereby missed the Technology reunion. He writes as follows with regard to his trip:—

There were five in our party, and we sailed from Boston on the "Saxonia" May 18. For a small charge a custom-house broker will see to packing, shipping the motor and procuring English licenses, which, if one does not know the ropes, is no easy task.

We landed in Liverpool on a Thursday and Saturday morning were on our way over perfect roads for Bettys-y-Coed, a charming little town in the mountains of North Wales. I had always thought of England as a

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flat country, but we found some very steep hills in Wales and North Devonshire. Porlock Hill, which is considered one of the worst, has a maximum gradient of one in five, and is three miles long. All roads have a very fine surface, but are narrow, and the sharp turns call for careful driving, although, to my mind, they are much more beautiful than the long straight stretches of France. The constant showers lay the dust and keep the road surface from blowing away, as well as the grass and foliage green. The small inns all through the country are excellent; and, although we went to some out-of-the-way places, as South Wales and Land's End, we found them clean, and the food plain, but good. From Land's End we followed the south coast of England to Southampton, where we crossed to Havre.

France is said to be the motorists' Mecca. The roads are broad and straight and there is no speed limit. I remember one stretch where we ran for fifteen and one-half miles without the slightest bend. With the Carte Taride, which are said to be the best road maps made, and the excellent French system of sign-posts, we had no trouble in finding our way, even though my course in French at Tech has left much to be desired. Every cross-road in either country or town has a large blue iron sign with the name of the place at the top in white letters, and under this the three next towns in each direction, with distances in kilometres. After a thousand miles in the château district of Brittany and Normandy, where we visited the "Three Normandie Inn," made famous by Mrs. Dodd's little book, we were glad to be back in England. At first it is rather confusing to keep to the left when meeting a team, but after a week or two it becomes second nature.

The only unpleasant feature of my trip was that it kept me from the June reunion.

Edward Cunningham writes as follows:—

I have just returned from a three weeks' trip in the woods of Canada. I went into the eastern portion of the province of Quebec,—that is, that portion which lies along the Saguenay River. It is a very beautiful country and entirely wild. I took with me my son Edward, who is now sixteen, and with a guide and canoe apiece we travelled through a chain of lakes, passing from one lake to another by frequent portage trails and camping wherever we found a good spot to fish or hunt. We had very good sport, besides plenty of tramping and paddling in our canoes, and it seems to me there is nothing equal to such a trip for any one who wants an entire change and to get air and exercise.

We slept in a tent, of course, and were always perfectly comfortable, in spite of the fact that it rained most of the time, for the first ten days at least. We were wet for days, but it did not seem to make any difference, as far as catching cold was concerned, as we were always on the move during the day-time, and at night we took care to put on dry things.

I have camped a good deal in the West, but camping in the East is quite different, although each has its peculiar attraction. In the first case you

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travel on horseback, and pack your belongings on a pack-horse, whereas in the latter you go by canoe, and, when you come to a portage, you have to pack your belongings on your back. There is also a great difference in the ways of the guides. One is used to doing with a very scant amount of water and wood, whereas the other is used to them both in abundance. The consequent difference in their methods is very interesting.

—Harry H. Young, treasurer of the J. L. Hammett Company, was interviewed in his busy season at about the time of the opening of the schools. This year he has taken the government contract to furnish the island of Porto Rico with school supplies.—The Choralcelo Manufacturing Company, of which Garrison is secretary, has just taken a sales-room in the Colonial Building, 100 Boylston Street, Boston. A music-room on the tenth floor, 40 x 42 feet, has just been made ready for this new musical instrument. —George W. Vaillant is connected with Edgerly & Crocker, of Boston, in the bond department.—J. A. Highlands will locate in Tucson, Ariz., where he will act as general manager for the Pioneer Smelting Company (copper ore). Joshua Hale will open a Boston office at 75 State Street for Chisholm and Chapman, bankers of New York, where he will be prepared to execute orders in stocks and bonds either in the New York or Boston markets.

1893.

FREDERIC H. FAY, *Sec.*, 60 City Hall, Boston, Mass.

The class has been honored in the nomination of Albert Farwell Bemis for president of the Alumni Association for the coming year. Bemis, who was the popular president of the class in our junior and senior years, has taken a deep interest in Institute affairs since graduation, has served for many years as secretary of the Walker Memorial Committee as well as a member of other committees, and is just completing a two years' term of service as vice-president of the Alumni Association. In this important period of Technology history, when the past students are being asked to share in the solution of weighty Institute problems, the alumni are most fortunate in securing for their president next year a man of such marked ability, loyalty and breadth of view. All will join in hearty good wishes for the success of Bemis' administration.—James C. Boyd is one of the three chief engineers of Westinghouse, Church, Kerr & Co., 10 Bridge Street, New York, his title being "consulting mechanical engineer." Boyd has been with this com-

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pany for seven years, during which time he has been engaged largely upon transportation problems. He was in charge of the electrification of a large portion of the Long Island Railroad system, and was called in consultation by officials of the New York Central, the New Haven and Pennsylvania roads, in their proposed electrification work. He has made designs, estimates, and layouts for a system of subways in the city of New York, the route selected and recommended by his company being that known as the Lexington Avenue route, which has been adopted by the Rapid Transit Commission. He has also made reports on transportation matters to the Metropolitan interests, Brooklyn Rapid Transit interests, John B. McDonald, and others in connection with proposed subways and tunnels connecting the various boroughs of New York. He has made investigations and reports on transportation problems and electric railway projects for the city of Montreal and in many parts of the United States. He has also been called in consultation on waterways of the state by the governor of New Jersey.—Densmore reports the arrival on May 6, 1909, of a son, Edward D. Densmore, Jr. The firm of Densmore & Le Clear, of which Densmore is senior partner, has recently moved its offices from 15 Exchange Street to 88 Broad Street, where they have larger quarters. Densmore reports himself as particularly busy, owing to the absence of his partner in Europe.—Frederic H. Fay was recently on the witness-stand for five successive days as expert for the Commonwealth in the trial of the "Boston Agreement" or "steel" cases, so called, which aroused considerable interest from the fact that most of the concerns engaged in structural steel business in Boston were on trial charged with conspiracy to control trade. A total of thirty-two indictments had been found against corporations or individuals as a result of the investigations of the Boston Finance Commission in 1908, and these several cases were tried together.—Frederic W. Lord has recently organized the Lord Construction Company to do contracting engineering, as his work of this nature has lately broadened out and exceeded the scope of the Lord Electric Company, a company doing business in Boston and New York, and of which Lord has been president since its organization in 1895. Among the company's recent contracts is one on the new Manhattan Bridge, New York city, amounting to nearly half a million dollars, which covers, besides the electrical work, the under-planking, wood-block pavement and track construction of the roadways, the reinforced concrete flooring of the foot-walks, the iron railings, etc. Lord writes that hereafter the company intends to take contracts for complete me-

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chanical equipments and similar work of an engineering character. —Walter H. Norris, for many years assistant engineer in the bridge department of the Boston & Maine Railroad, with headquarters at Boston, has recently been promoted to the position of bridge engineer of the Maine Central Railroad, with headquarters at Portland, Me., succeeding B. W. Guppy (M. I. T. '89), who becomes bridge engineer of the Boston & Maine. Norris has moved from Melrose, Mass., to 54A Glenwood Street, Deering, Me.—Eugene Everett Pettee and Miss Margaret Edith Babcock, daughter of Mrs. Charles Fenno Babcock, are to be married at the Church of the New Jerusalem, Roxbury, Mass., on Saturday evening, October 23. Mr. and Mrs. Pettee will be at home after February 1 at 575 Blue Hill Avenue, Roxbury. Pettee is a member of the firm of J. R. Worcester & Co., consulting engineers, 79 Milk Street, Boston.—Harold A. Richmond spent two months abroad during the past summer on a business trip, on which he visited Germany, Austria, Hungary, Switzerland and France. Richmond is president of the American Emery Wheel Works of Providence, R.I.—With the opening of the school year Charles M. Spofford begins his duties as Hayward Professor of Civil Engineering at the Institute. Spofford moved into his new home at 8 Keswick Street, Boston (near Audubon Circle on Beacon Street), in September, after spending the summer in literary work at Camp Taconnet, Belgrade Lakes, Me.—The home address of William C. Whiston is changed from 625 West 135th Street to 611 West 141st Street, New York city.—J. E. Woodbridge has resigned his position with the General Electric Company at Schenectady, N.Y., and on September 1 entered the employ of Ford, Bacon & Davis, engineers, 115 Broadway, New York city. Woodbridge is now in California in charge of construction work for the Sierra and San Francisco Power Company.—James A. Emery has been connected with Ford, Bacon & Davis for a number of years, and for that firm is at present engaged in street railway report work.

1895.

GEORGE A. ROCKWELL, *Sec.*, 101 Tremont Street, Boston, Mass.

The class is indebted to Alfred L. Fitch, of Chicago, Ill., for a very good photograph of the class stunt at Nantasket. Among those who could not be present at the reunion, but who sent letters of regret, were Luther Conant, Jr., of Washington, D.C.; J. C. Dicker-

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man, of Madison, Wis., who is on the faculty of the University of Wisconsin; George L. Bixby, of Indianapolis; E. E. Dennison, of Portland, Me.; William S. Rhodes, of Savannah, Ga.; D. L. Bliss, Jr., of Tahoe, Cal.; J. T. R. McManus, of Memramcook, N.B.; F. C. Schmitz, H. Gardner, W. C. Brackett, F. W. Belknap, of New York; Richard Morey, of Apalachicola, Fla.; George E. Howe, of Wauseon, Ohio.—L. K. Rourke wrote, "I am married now, and have charge of the largest steam shovel job in the world."—W. J. Rice wrote that he is developing an apple ranch in Cashmere, Wash., and said: "You may tell all the boys for me that I am a farmer. Thus do great careers live up to their early promises."—Francois E. Matthes wrote from Washington that he is to have charge of surveying the coal country of West Virginia. The following is an excerpt from his letter:—

In fact, it partakes a whole lot of a military campaign. You take advantage of the topography and the routes of communication, you hunt out strategical positions and do all the damage you can from them, only you don't necessarily shoot anybody.

—The next reunion of the class will be held in the spring of 1910, and will be in celebration of the fifteenth anniversary. The idea of having a reunion next spring has met with approval from many members of the class, and it is not too early for suggestions as to the best form of celebration. While no details have been definitely determined, the general plan is to spend three or four days at the country or seashore. At the time of the general reunion last June, men were appointed in different sections of the country to discuss with the other members of the class who live in those sections the matter of the celebration of the fifteenth anniversary and to arouse as much enthusiasm in it as possible. The secretary will be very glad to receive suggestions as to the time and place of holding the reunion, as well as to details of entertainment.

Whereas the Class of '95 was the active instigator of the restoration of the Huntington Hall frieze, the urgent supporter of the Class of '05 in undertaking the work, and the contributor to the expense of the four panels over the two entrance doors,—Architecture, Mining, Chemistry and Electrical Engineering,—therefore,

Resolved, That the Class of 1895 hereby expresses its gratitude to the Institute for carrying this work to completion in this year 1909 on the occasion of the second Technology Reunion; to the President, Dean and Faculty, who encouraged the attempt; to the many untiring and enthusiastic students who labored on its panels; and especially to Mr. W. Fenton

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Brown, the able Artist and Instructor, who so enthusiastically superintended the execution of the Frieze.

In it appears his artistic insight and feeling and grasp of the whole composition which he carried over a period of five years, and yet maintained as a unit, a monument and memorial not only to its givers and makers, but to its real instigator, a loyal undying Institute Spirit.

1896.

PROF. CHARLES E. LOCKE, *Sec.*, Mass. Inst. of Tech., Boston, Mass.

E. H. Laws was married July 20 to Miss Alice Claire Glassbrook, of Berkeley, Cal. Mr. Laws is now located at Salida, Col., where he has charge of an independent smelter.—Charlie Morris, under date of June 24, wrote from Mersina, Turkey in Asia, as follows:—

I am more than disappointed that it is impossible for me to attend the class reunion. Had I been anywhere along the Atlantic coast, I would have made every effort to have joined in with the fun, especially as it has never been my fortune to have been in Boston at a time when it was possible to renew old times with my classmates.

The last TECH REVIEW reached me at Smyrna, and I certainly enjoyed the class news it gave. It affords the only means I have of keeping in touch at all with the fellows and know anything of what they are doing, and so I hope it will keep up its good work.

Our duty here is very monotonous, and all on board are hoping that it will soon cease. Adana, where the worst Armenian massacres recently took place, is a few miles inland and connected by a railroad, but it is half in ruins, and, presenting, as it does, destitution and misery and suffering on every hand, does not offer a place for cheerful relaxation from ship-board; and then Tarsus, the only other town near by, is in much the same condition, so the result is that it is seldom any one leaves the ship.

—Myron L. Fuller, who since his resignation from the United States Geological Survey has been engaged in the cranberry business in Massachusetts, will start in October on a tour around the world, his itinerary including Egypt, India, Ceylon, Java, Borneo, the Philippine Islands, China, Japan and the Hawaiian Islands. Mrs. Fuller will accompany him on the trip.—Harry P. Browne spent the summer in Boston on business.—Myron E. Pierce is very much in the public eye at present, owing to his participation in the three-cornered fight for state senator in the district comprising Wards 10, 11 and 25 of Boston. Last year the Class of '96 had Senator Haultman at the State House. Here's hoping that it will be Senator Pierce this year. The following article shows the high esteem in

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which he is held. It was written last year, when he was representative in the legislature:—

Myron E. Pierce, of Boston, of the Class of '96, M. I. T., is a splendid example of a young man of wealth, brains and education consecrating himself to the service of the public. Such cases, common though they be in England, are rather rare in this country, where politics as a career is not regarded in the same degree of estimation as it is in the "mother country," nor in fact, it may be said, is it practised with the same ideals as there, except in rare instances, such as that of Representative Pierce.

Mr. Pierce supplemented his education at the Institute with a course at the Harvard Law School, thus laying an excellent foundation for the career in which he has, at a comparatively early age, distinguished himself; for it is less than thirty-five years ago that he first saw the light of day in the city in which he has always resided. Representative Pierce is one of those who regard it as a duty to take an active part in politics, and from his majority he has been actively identified with the Republican party in Ward 11, the Back Bay ward of Boston. For seven years he has served upon the Republican Ward Committee, and for four years he represented the ward in the lower branch of the Boston city government. The Boston Common Council has been much maligned, but to Representative Pierce it certainly was an excellent training school for his subsequent service on Beacon Hill. His ideals always of the highest, in the city government he was an earnest and persistent opponent of graft and pernicious legislation, oftentimes fighting the battle alone and unaided. The obnoxious and dangerous financial system of borrowing money on long-time loans for current expenses, such as street repairs, was fought so vigorously by Mr. Pierce as a councilman that he may be said to have been responsible for the practical abandonment of the system, which is largely responsible for the debt-ridden condition of the city today. His efforts in this direction won for him the highest commendation of the Good Government Association and of honest citizens generally.

In 1908, his first year in the House of Representatives, he was placed on the Committees on Federal Relations and Cities, and one of his first acts was to secure from the latter committee a favorable report on his bills to repeal the law authorizing the city to borrow $1,000,000 a year indefinitely outside the debt limit for sewerage construction and to authorize the city to borrow its money for the construction of the separate system for surface sewerage inside the debt limit. He succeeded in putting both bills through the House. It was he who was responsible for increasing the state loan to fire-stricken Chelsea from $700,000 to $1,000,000.

This year he went still further in his efforts to better the financial system of Boston by putting through his Committee on Cities a bill to repeal all the acts of past legislatures authorizing the city of Boston to borrow outside the debt limit, except those loans for transit purposes. He was promoted this year by Speaker Walker to the chairmanship of the Committee on Federal Relations. No man in the House makes a deeper study of the bills which

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come before it, nor has any one a better grasp on legislative subjects, especially those affecting Boston. His honesty, sincerity and ability, while they do not always command their votes, have won for him the respect and esteem of the "practical politicians" in the state legislature.

As organizing secretary and counsel for the American Free Art League, he has been a persistent laborer to have the duty removed from works of art, and personally appeared before the Committee on Ways and Means of the National Congress last November in support of the proposition. The result of his efforts may be seen in the provisions of the Payne bill, which admit free of duty the works of American artists residing abroad, those to be used for exhibition purposes and for the encouragement of art and those imported by societies and institutions.

—Mr. T. I. Jones, manager of the sales department of the United Light and Electric Power Company, New York City, resigned his position to become general agent of the Edison Electrical Illuminating Company of Brooklyn on September 15. Mr. Jones since his graduation has been identified with the American Telegraph & Telephone Company, also as illuminating engineer of the Nernst Lamp Company. During the past five years, in addition to his regular duties, he has been delivering for the New York Board of Education a number of lectures on electrical engineering and electric light and power problems. A number of articles have been contributed by Mr. Jones to the electrical press, among the more recent being a contribution on "The Growth of Alternating Current in New York City," appearing in the *Electrical World* a few months ago. At the last convention of the National Electric Light Association, held at Atlantic City, Mr. Jones read a valuable paper on the "Development of Revenue from Existing Customers." —Mr. Jacob Lloyd Wayne has been calling upon his old friends and classmates in Boston. He brought news from Whitney, Stickney, Putnam, and Wall. The first three, together with himself, are in the employ of the Central Union Telephone Company of Indiana. Wall is engineer of the National Vehicle Company, and has charge, as such, of the designing of the National racing cars. Wayne is still single, and is taking his vacation all alone.

1897.

JOHN ARTHUR COLLINS, Jr., *Sec.*, 67 Thorndyke Street, Lawrence, Mass.

William J. Walther (I.) was married on Wednesday, July 21, to Miss Martha Dale Cole, of Dorchester, Mass. They will be at

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home after October 15 at 18 Warner Street, Dorchester.—Charles Bevan Clark (I.) was married on June 26 to Miss Dorothy May MacGuire, of Rockville, Md. They will be at home after August 1 at The Mount Royal, Baltimore.

1898.

PROF. C.-E. A. WINSLOW, *Sec.*, 157 Walnut Street, Brookline, Mass.

Weimer was married to Miss Bertha Cora Hartman at Schenectady, N.Y., on Friday, September 17. Mr. and Mrs. Weimer will be at home through the winter at Exmore Farms, Pine Grove, Pa. —Daly was married Wednesday, September 15, to Miss Evva Emslie, daughter of Mr. and Mrs. Holland Emslie, of Brooklyn, N.Y.— P. F. Johnson has moved again, this time from San Francisco to Berkeley, Cal., where his address is 2239 Derby Street.—E. F. Ayres has moved from Kingston to Poughkeepsie, N.Y., where his address is 38 South Cherry Street.—Willis sends a new address as follows: 2 A Avenue, Chapultepec, 20 Tacubayo, D. F., Mexico.—Godfrey published during the summer an Elementary Chemistry (Longmans, Green & Co.) of unusual interest and importance. The following four ideals are set forth, and are attained with extraordinary success:—

> The author has desired to obtain simplicity, to reach the understanding of the student; to rouse the pupil to a realization that the science of daily life is identical with the science of the school-room; to include all the essential facts and theories which could be rightly assimilated in one year's work in elementary chemistry.

—Pratt returned from Cuba for a few weeks this fall, and took Belcher ('02) back with him to design filters for the city of Santiago. Pratt and Winslow are writing a text-book on "Sewage Disposal" in collaboration with Professor L. P. Kinnicutt, of Worcester Polytechnic Institute (M. I. T. '75).—A. H. Tucker's engagement is announced to Miss Eva Sophie Forté, daughter of Mr. and Mrs. P. A. Forté, of Springfield. Miss Forté is a graduate of Smith College, Class of '99, and was given the degree of A.M. by Radcliffe College in 1908. She is now instructor in French in the Normal College of New York city.—H. I. Lord was married on October 2, at Pontiac, Mich., to Miss Mary Norton, daughter of Mrs. John Dudley Norton. Mr. and Mrs. Lord will live at 550 Jefferson Avenue, Detroit.

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1899.

HERVEY J. SKINNER, *Sec.*, 93 Broad Street, Boston, Mass.

S. B. Robertson was married June 16 to Miss Anna Mason Welty at Alliance, Ohio.—J. A. Patch has returned to his work in Syria after spending the summer in this country, renewing the acquaintance of his many friends.—C. G. Barry is now connected with the engineering department of the New York Central & Hudson River Railroad. Barry has been working for some time on the new Pennsylvania Railroad tunnels under the Hudson River, but these are now nearly completed.—H. L. Morse, of the Coast Artillery Service, is now stationed at Fort Mills, Philippine Islands, having been recently transferrred.—The following changes of address have been received: C. Gardner Barry, P.O. Box 463, Cornwall-on-Hudson, N.Y.—C. B. Cluff, care of The N. K. Fairbank Company, 4107 Castleman Avenue, St. Louis, Mo.—B. Herman, engineer of bridges, C. N. O. & T. P. Ry., Cincinnati, Ohio.—L. Johnson, 343 South Oak Park Avenue, Oak Park, Ill.—J. E. Lewis, 33 Barnard Street, Hartford, Conn.—W. O. Sawtelle, 4 Mercer Circle, Cambridge, Mass.—F. A. Watkins, 441 Hazel Street, Highland Park, Ill.—G. C. Winslow, Jr., care of Montgomery Reed, 60 State Street, Boston.—Professor Earle B. Phelps, Associate, American Society Civil Engineers, of the Massachusetts Institute of Technology, and Mr. Charles E. North, M.D., for three years director of the department of bacteriology of the Lederle Laboratories, have associated themselves as consulting sanitary experts, with an office at 30 Church Street, New York city, and with laboratories near by. They will give their attention to all matters of sanitation and preventive medicine, and especially to the improvement of water and milk supplies, methods of sewage disposal and the control of epidemics, working in co-operation with other engineers rather than attempting anything in the way of engineering designs and estimates themselves. Professor Phelps has been connected with the sewage treatment experiment station of the Massachusetts Institute of Technology for several years past, and has been engaged in other lines of engineering work, particularly with reference to sewage treatment, including studies of the disinfection of sewage. Dr. North has given attention to the sanitary production and distribution of milk supplies, and has also given consideration to the control of epidemics, water supply and other sanitary problems. Professor Phelps will continue his relations with the Massachusetts Institute of Technology and its

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sanitary research laboratory, but his business address will be as given above.

1900.

INGERSOLL BOWDITCH. RICHARD WASTCOAT.
GEORGE C. GIBBS. PERCY R. ZIEGLER.

N. J. NEALL, *Sec.*, 12 Pearl Street, Boston, Mass.

The returns at hand show that some sixty members of our class attended the reunion, either in whole or in part. They are: Allen, Ashley, Bowditch, Brickley, Brooks, Brown, Bugbee, Burnham, Burroughs, Charles, Clarke, Collier, Conant, J. B., Conant, F. N., Cutting, Draper, Dunbar, Durgin, Emery, Fitch, French, Hapgood, Harps, Howe, Hunt, Hurd, Jennings, Jouett, Kattelle, Langford, Lawley, Neall, Leary, Lincoln, Macpherson, MacRae, Ober, Osgood, H. E., Osgood, I., Penard, Price, Ripley, Smith, Southworth, Stearns, Swinson, Walworth, Warren, Wastcoat, Wentworth, Ziegler, Gibbs, Dorey, Ingalls, Tudbury, Beekman, Corliss, Reardon, Brigham, Brownell. The two most successful features of the program for us were the outings at Nahant and Nantasket, respectively. Some of the men had already begun the festivities at the Governor's reception and the City Club's smoker, but the first real class fun began on the steamer to Nahant. Collier took our pictures, and Bowditch instructed us in the class stunts, which had been planned for the next day. Owing to the insuperable difficulties, however, of sitting in each other's laps and playing "ring-around-the-rosey," and keeping the *tempo presto*, it was unanimously agreed to hunt for something else. When we arrived at Nantasket the following day, we found ourselves provided with Japanese parasols and brilliant large red poppies as buttonhole bouquets. As may be imagined, we cut quite a figure in the parade to the Atlantic House. The 1900 stunt consisted of a leap-frog race in four divisions, which wound up with a class yell and a hasty exit from the field. It may be stated without fear of contradiction that the general opinion of our stunt is far from complimentary,—in fact, some of the 1900 men who took part have privately declared that it was rotten. There should be some consolation, however, in the fact that it makes a good moving picture, and that scarcely any of the men recognized themselves when a picture was shown of us the same evening at the banquet. As a matter of fact, it is really a distinct achievement in the revival of our class interests to know that the fellows, at least, have played leap-frog together. There is good reason to expect that

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something better may come in succeeding years. The most noteworthy feature of the "Pop" concert was the presence of Wentworth's little son,—the class baby,—who is now quite a little chap, and shows great promise for his future days at Technology. Contrary to our expectations, there was no special excursion of the 1900 class. It was found very difficult to find a suitable locality at a reasonable expense. Some of the fellows, however, did get together for an informal supper at the Thorndike, following our return from Nahant and preceding the "Pop" concert. These were Bowditch, Draper, Wastcoat, McPherson, Brooks, Fitch, Ingalls, Walworth, Harps, Emery, Ziegler, Howe, Dorey, Gibbs, Hurd, Lawley, Leary, Jouett and Neall. The festivities wound up with a theatre party on Thursday evening, to which Wastcoat, Leary, Wentworth, Lawley, Stearns, Ingalls and Neall came with their wives and sweethearts. Lulu Glaser in "Mlle. Mischief" provided the entertainment, and Mr. and Mrs. Wentworth had some delicious candy. We are happy to report that the casualties of our gathering were limited to only one person, Bugbee, who had the misfortune to have a fire bucket jump its mooring on the Nahant steamer and land on his head. Bugbee presented quite a gory aspect, but the damage was evidently not very serious, for he subsequently appeared at the "Pop" concert, looking perfectly intact. 1900 was honored by having three of its members on special committees for the work at large,—Bowditch on tickets, Ziegler on the management of the stunts at Nantasket and Neall on the baggage. We are still awaiting contributions to the class yell contest. We wish to remind the members of the class that a new creation of this character is very much desired, and, to add interest to the occasion, a prize will be awarded for the best yell. Several contributions have been made, but we do not feel that the possibilities of our class have been sufficiently exhibited. The preparations for the Class Book are moving along, and we hope that those of the class who have not yet sent in their data will do so shortly, before they are especially circularized on this subject, as well as the contributions. It will be of interest to the class to know that the responses to the request for subscriptions have been very encouraging, and show warm regard for the class. We have every reason to believe that our best desires for its financing will be shortly realized.—Harry Leslie Walker announces his association with Beverly S. King, formerly of Whitfield & King, of New York, under the firm name King & Walker, architects, Terminal Building, 41st Street and Park Avenue, New York, Studio Building, 90 North Forsyth Street, Atlanta.—In the Boston *Advertiser*, Sept. 13,

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1909, the engagement is announced of Miss Clara Compton Girault, daughter of Mr. and Mrs. Peter L. Girault, Chicago, to Mr. Levi Brown Jennings (M. I. T. 1900), of Weston.—E. F. Brigham was married on September 14 to Miss Phyllis S. Lindsey, Church of St. Augustine, Santa Monica, Cal.—McMeen & Miller, electrical engineers, patent experts, giving special attention to telephony, with offices in Chicago and San Francisco, announce the association with them of Leigh S. Keith, who will devote his attention to engineering problems relating to telephony, electric light, power and gas, and will be particularly engaged in investigations and reports on public service systems and plants.—Batcheller is now at Mattapoisett, Mass., where he expects to be for some months. Batcheller has given up for the present, so he says, practically all work save some personal affairs, and hopes to see some of the men this year. We regret to announce that Batcheller has just buried his little son, William Field, who was almost three years old.—Gibbs spent part of his vacation assisting at a boys' camp, Sebago Lake, Me., and has been on a visit to Philadelphia and New York.—Wastcoat has just bought a devil car. He is now away on a vacation, and, if he returns alive, there may be much of interest to announce in our next issue.—Ever since Bowditch left Tech he has been planning to make up for his missing the freshman drill. As a member of the First Corps Cadets, he drove one of the commissary wagons in the late war between the Blues and the Reds around Boston. General Bliss claimed the decision for the Blue army because he had got around the flank of the defending army, but he had his work still cut out for him, for he didn't get by Bowditch as yet. Bowditch has this to say for himself:—

Some of the fellows may like to know something about the "war" which occurred between the Red and the Blue armies in the southern part of the State from August 14 to the 21st. I was not actively engaged, as my duties kept me with the baggage trains the days the Cadets went into action, but I had a good chance to see the administrative work.

The work of the division commissary was excellent. He had the food, and could issue it as fast as it was wanted, but the trouble came with the commissaries of the different organizations. There was plenty of food in camps, but on the march the men went without it for nearly twelve hours.

A great surprise to the officers was the way in which the automobile trucks stood up under the work. The roads were in very bad shape, especially the days it rained, and the trucks were never spared a particle. The machine with the Cadets was always ready, and was a great help when it came to hauling water and supplies. It also carried details of troops when they were ordered out in a hurry. Two machines with Battery A, Field Artil-

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lery, carried one-inch torpedo boat guns, and did valuable service in holding the enemy at cross-roads. Pine-trees were fastened all around them, and, when they went into action, they formed part of the surrounding scenery. They were sent to Taunton and other surrounding places to help blow up bridges. Two others were used to carry the baggage of division headquarters, and I never saw a truck which was not able to do its duty. They will hold a very important place in the next real war. An amusing incident occurred just after I left camp with a baggage wagon. I heard several shots behind me, and shortly after a member of the signal corps came up in a buggy, and told me that the Reds had taken the camp I had just left, and he had escaped, leaving everything behind. Shortly after that I met a lot of troops coming towards me with the news that the Reds were ahead, and that the Blues had been ordered out of the country where I was going. With Reds in front and behind, I decided to wait until one o'clock, when the war would be over for the day. Shortly after making this decision, I received orders to turn back. When I got to camp that night, I learned that the attack on our camp was a fake, and had been made by some of our own men to create a little excitement.

The days appeared forty-eight hours long, for we were up at four o'clock some mornings and at two o'clock others. When noon came, we were not sure whether it was the next day or the day before. If anybody wants a good experience, he wants to break camp at two o'clock in the morning in a pouring rain and not much to eat, and then ride on horseback all day with a saddle several times too small and a livery stable horse which interferes behind. Walking is a pleasure after this.

As far as I can learn, this war game was of great instruction for all general, staff and field officers; but the line officers and the enlisted men did not get a great deal of good out of it. They learned what NOT to do the next time.

—The last time that Bowditch came down from Chocorua he met Tuck and his family. Tuck seemed just the same as he did ten years ago, and engineered the transportation of his wife and three children with great success. He was on his way to Haverhill, Mass., to spend ten days. He intended to come to the reunion, but was prevented at the last moment. He was glad to see that Course I. was well represented in the pictures.—Ziegler reports as follows:—

Kenneth Seaver was in town on business the last of August, meeting some of the fellows. For the last seven years he has been with the Harbison-Walker Refractories Company, first in the engineering department and at present in the sales. This company makes all sorts of brick for furnace linings, etc. Seaver has just written a very attractively printed and bound book, entitled "Study of the Open Hearth," which the Harbison-Walker Company are sending to all steel manufacturers.

I am about run dry of news,—in fact, I haven't been in the way of getting

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any this summer. I learned incidentally that Jennings has landed a big order for furnishing a fine house in Chicago. Brooks is on his way to Boston again, he writes me, after having completed that job in the Adirondacks. Seaver said that John Campbell (Course III.) has lost a small child. I don't know whether it was ever reported in THE TECHNOLOGY REVIEW that McGowen (Course II.) lost his life while riding in the cab of an engine at Lawrence, Mass. I believe the engine was derailed, and he was killed.

I think we decided last spring that we were going to attempt to have monthly informal dinners at the Technology Club. It seems to me it would be a good thing to have a stated time every month for such times, so the fellows would know when they might expect to see each other in this way. If the time could be agreed upon in time for it to go into this REVIEW, it would be very desirable to mention it, I think.

—The class committee is arranging for a meeting of all 1900 men in Boston and vicinity at the Technology Club in the middle of November. Whereas last spring we had selections by Caruso, Sembrich, etc., we hope this time to have some of our own men entertain us. The plans are not yet matured, but due notice will be given.

1901.

R. L. WILLIAMS, *Sec.*, 30 Waban Hill Road, Chestnut Hill, Mass.

Now that the summer is over and the men have returned home from their vacations, we hope their interest will turn to their college friends once more and that a goodly number will show up at our class meetings.—Edmond F. Brigham recently crossed the continent to be married, Tuesday evening, the 14th of September. The ceremony took place at Santa Monica, Cal. Phyllis Sabine Lindsey was the fortunate young lady, whom the class will gladly welcome to its ranks.—Charles F. F. Campbell gave a reception in Cambridge, September 2, to his parents, Sir Francis and Lady Campbell, who are visiting in this country from England.—Anthony W. Peters married Miss Ruth G. French April 17. He is now living in Brattleboro, Vt., and is assistant engineer for the J. G. White Company, Dummer, Vt.—Edward B. Cooke is blast furnace manager for the Warwick Iron and Steel Company. He is married, has two children, and lives in Pottstown, Pa.—One of our most distant classmates, we venture, is Horace Johnson, who lives in Waialua, Oahu, Hawaii, where he superintends the manufacture of raw sugar. —Arthur Ray is head of the drawing department of the Technical High School, Springfield, Mass. Since leaving Tech, he has been

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in almost all of the United States, has been across Canada and over the line into Mexico. He has been to the Pacific coast three times. —J. R. Putnam has recently moved from Boston to Waterbury, Conn., where he has accepted a position with the Waterbury Clock Company.—Ralph H. Stearns is assistant engineer for the New York Board of Water Supply. He has been to Europe twice.—The following changes in addresses have been recently received: George A. Clark, Fort McHenry, Md.—F. Ward Coburn, care Toledo Furnace Company, Toledo, Ohio.—Donald A. Kohr, 135 Oxford Street, Dayton, Ohio.—Arthur Little, Reading, Mass.—J. H. Lohbiller, 106 South 12th Street, St. Louis, Mo.—E. P. Burdick, 311 Union Building, Newark, N.J.—Francis E. Cady, Drawer N, Cleveland, Ohio.—Stuart B. Miller, care E. I. Du Pont de Nemours Powder Company, Marquette, Mich.—H. C. Morris, 1 West 81st Street, New York, N.Y.—Ray Murray, Pleasant Valley, N.Y.—J. E. Ober, West Pennsylvania Steel Company, Pittsburg Building, Pittsburg, Pa.—P. A. Potter, 100 Williams Street, New York, N.Y.—W. J. Sayward, 343 Arcade Annex, Seattle, Wash.—William M. Vermilye, 116 Bedford Street, Boston, Mass.

1903.

F. A. OLMSTED, *Sec.*, 93 Broad Street, Boston, Mass.

Mention was made in the last number of the REVIEW of the fact that Newman sailed for Europe a short time before the reunion. He and Mrs. Newman sailed May 14, going direct to Naples, touching at the Azores and Gibraltar. They travelled through Rome, Florence, Venice, Milan, the Italian Lakes and Switzerland to Paris. They then went to Sweden via Hamburg and Copenhagen, and spent two weeks with relatives. From there they went to England, and sailed from Liverpool to Boston. The whole trip lasted ten weeks. On his return Newman took a position as assistant engineer with French & Hubbard, 85 Beach Street, Boston, in their concrete construction department, having resigned his former position with William Wheeler.—Fales also indulged in European travel during the summer. He writes as follows regarding his trip:—

I was six weeks in Italy, Switzerland, France and England. Could not but be impressed with the large amount of money which has been spent in Italy upon highways and railroads, also with the cleanliness of Italian cities. Then the high art to which counterfeiting has been carried here is both a source of admiration and exasperation.

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I shall never forget the views of the Matterhorn from Zermatt and the Jungfrau from Scheidegg.

Paris with its large squares, boulevards, public buildings and memorials was very interesting. The life and atmosphere there is unique as compared with any other place I saw.

In London one of the greatest surprises to a stranger is how the speedy motor busses dash through the streets with so few accidents. Our English cousins may be a bit slow, but they certainly are good dodgers.

—Jesse Joseph has recently resigned his position with Jones & Laughlin at Pittsburg, and has accepted a position as sales engineer with the Platt Iron Works Company, 100 Broadway, New York.—F. C. Reed was married the latter part of August, but up to the time of writing particulars have not been received.—Joyce was married June 10, Miss Ruth Conant, of Boston, being the bride. The wedding took place in Emmanuel Church.—Regan was united in marriage with Miss Mary V. Sullivan in Cambridge June 30.—Cox writes that the '03 men in New York are continuing their monthly informal dinners at the Technology Club, and it is hoped that any men in New York will try to attend when possible.—The following new addresses are noted: Mrs. Arthur Blunt, 14 Mt. Pleasant Street, St. Johnsbury, Vt.—Charles H. Porter, 143 Newbury Street, Boston, Mass.—Richard M. Field, 42 Broadway, New York.—W. R. Davis, 323 Jefferson Avenue, Scranton, Pa.—K. W. Endres, care Electric Storage Battery Company, Allegheny Avenue & 19th Street, Philadelphia, Pa.—Roger A. Burr, 80 Dufourstrasse, Zürich, Switzerland.—Thomas D. McInerney, care Stone & Webster, 147 Milk Street, Boston.—F. G. Babcock has his mail sent to Tolland, Conn.

1904.

R. A. WENTWORTH, *Sec.*, 426 Main Street, Amesbury, Mass.
M. L. EMERSON, *Res. Sec.*, 161 Devonshire Street, Boston, Mass.

Please note change in the secretary's address. He has returned to Massachusetts as assistant to the president of the Merrimac Hat Company, manufacturers of fur and felt hats, with factory at Amesbury.—On our last day in Saylesville, Charlie Barrett came in trying to sell a big locomobile to the manager of the bleacheries. The secretary had not seen him since graduation. Barrett has been for several years in the engineering end of automobile work, but has recently changed over to the selling organization of the Locomobile Company. His headquarters are in

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Bridgeport, Conn., but he is on the road most of the time.—Late in August occurred the death of Mrs. Everett Hiller, following an operation for an abscess in the ear. Mrs. Hiller's friends included many of our classmates, who suffer a severe loss in her death. Our good friend and classmate receives our deepest sympathy in his great bereavement.—Arthur W. Bartlett was married on September 1 to Miss Flora Lenahan, of Lansdowne, Pa., in which place Bartlett has been living for some time. His business is in Philadelphia, as engineer for the American Water Softener Company on the design and assembling of water softeners and pressure and gravity filters. This wedding moves Charlie Haynes to observe that only Pete Underhill and himself remain unmarried of the Course X. bunch.—On September 7 Maynard Holcombe was married to Miss Eleanor Pearl Marshall, daughter of Mrs. Susan P. Marshall, of Washington. After October 15 Mr. and Mrs. Holcombe will be at home at 1325 Vermont Avenue, Washington, D.C.—Galusha got an excellent snap-shot of the reunion crowd, taken just before our class meeting on the rocks of Nahant.—Speaking of photographs, look up the July REVIEW, and notice how '04 looms up into prominence on the band-stand in the general group at Nahant. Also look up illustration No. 31, depicting the procession at Nantasket in which we constitute the entire procession.—G. R. Ainsworth is designing and selling lighting fixtures of ornamental metals and marble for Edward E. Caldwell & Co. at 38 West 15th Street, New York.—L. H. Asbury (IV.) is practising architecture in Charlotte, N.C. He was married April 30, 1908, to Miss May W. Crosby, of Boston.—Baum is at South Strafford, Vt., with the Vermont Copper Company. He is engaged in experimental work on a large local copper deposit in determining a method of working for copper, sulphur and iron.—H. W. Bull (I.) is vice-president of the Monarch Valve and Manufacturing Company of Springfield, Mass. He was married in 1903, and has three children, the eldest now being four years old. Bull has served on the Springfield Common Council.—Cary (VIII.) is salesman with the Leeds & Northrup Company, with office at 4901 Stenton Avenue, Philadelphia.—Alfred L. Coupe has been in business for himself for about a year in the firm of Coupe & Gray, doing a general engineering business, but specializing on concrete construction. His address is 408 Equitable Building, Louisville, Ky. He has built a church in Louisville, and has done a lot of sewer work for the city.—Allan Courtney is assistant general foreman of the Fort Wayne shops of the Pennsylvania lines west of Pittsburg.—Currier (XIII.) is making torpedoes for the government at the Torpedo

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Station, Newport, R.I.—H. R. Davis is draughtsman with the architectural firm of Shepley, Rutan & Coolidge, of Boston.—Jack Draper is manufacturing paper-makers' felts at Canton, Mass. He is one of the directors of the Draper Brothers Company.—Dave Elwell is still with the Westinghouse Company, now being located at 165 Broadway, New York, as commercial engineer.—W. F. Goodwin (VI.) is treasurer of the Bullock-Goodwin Company, of Biddeford, Me., electrical engineers and contractors. He was married in 1903.—L. R. Grant (VI.) is assistant superintendent of transportation of the Seattle Electric Company, Seattle, Wash. He was married in 1906 to Miss Ethel Josephine Austin, and has a daughter two years old.—Charles F. Hunter has an office in the capitol at Albany, N.Y. He is chief inspector of electric meters for the Public Service Commission of the Second District. He has met two Tech men in seven years who were of '04. Look him up when you go to Albany.—William A. Hyde (VI.), whose address is Bureau of Ordnance, Navy Department, Washington, is electrical expert for the Navy Department on electrical apparatus installed in turrets of all war-vessels. His work includes the drawing of specifications for such apparatus, as well as the following up of tests and performance.—Arthur H. Langley is director and salesman for the W. C. Langley Furniture Company, Waterbury, Conn.—H. M. Leh is a manufacturers' sales agent, with offices in the Commonwealth Building, Pittsburg, and in the Real Estate Trust Building, Philadelphia. Most of his business is in paints, small tool hardware, iron and steel.—H. K. Lowry is at Milwaukee with the Chicago, Milwaukee & St. Paul Railroad. As assistant signal engineer, his territory is nine thousand miles in extent, and his duties cover all kinds of technical and general administrative matters.—John R. Marston (V.) is chief chemist with the Selby Smelting and Lead Company at Selby, Cal. This is about thirty miles from San Francisco, on San Pablo Bay.—S. J. Martenet, Jr. (V.), is assistant superintendent of the Crocker Works of the American Agricultural Chemical Company at Buffalo, N.Y. At his plant they manufacture chemical fertilizers and sulphuric acid.—Since the first of the year Mason has been in business for himself at 93 Orleans Street, Chicago, as consulting chemical expert.—Guy Palmer was married in 1906 to Miss Jessie L. Traer, of Vinton, Ia. He is assistant division engineer in the maintenance department of the Chicago division of the Baltimore & Ohio Railroad.—Peiler is a life insurance engineer with the actuarial department, Ætna Life Insurance Company, at Hartford, Conn.—George Powell is engineer with the Loomis-Manning Filter Company at 828 Land Title

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Building, Philadelphia.—J. W. Shaw (III.), for some time mill superintendent of the King Edward Mine at Cobalt, Ontario, has been appointed manager of the Cochise mine at Cobalt.

1905.

GROSVENOR D'W. MARCY, *Sec.*, 246 Summer Street, Boston, Mass.

C. E. Atwood, in replying to the reunion notices, wrote:—

I have started the "Technology Club of Chile," with at present a membership of one. I will say for myself, and I think the other members are unanimously of the same opinion, that we would all walk, fly or swim, to be present at the reunion, if it were even next to possible. However, as it is *absolutely undoable* at present, we must postpone the trip till later with regrets.

Atwood's address is care J. K. Robinson, Iquique, Chile, S.A. —The secretary learned from Sid Strickland's mother that he is expected home in November. He has been doing very good work at the École des Beaux-Arts, but had a nervous breakdown from overwork. His wife and children came home, after spending June with him in Spain, only to receive a cable shortly after landing that he was seriously ill. He is better now, and expects to be able to finish up and return in the fall.—Charlie Johnston has left Mexico to take a position as manager of the Winchester Rock and Brick Company, with offices at 110 State Street, Boston.—George Jones announces that he has resigned as assistant examiner in the United States Patent Office, and has opened an office for the practice of patent, trade-mark and copyright law at 1609 Fort Dearborn Building, 134 Monroe Street, Chicago. In a postscript, referring to his card appearing in this number of the REVIEW, he says, "From the number of degrees you might mistake me for a thermometer, so prepare for the worst."—Philip G. Darling, with Manning, Maxwell & Moore, Inc., at their Bridgeport factory, read a paper on "Safety Valve Capacity" before the American Society of Mechanical Engineers on February 23. It was printed in the *Engineering News* of March 11 and subsequently in many other engineering journals here and abroad—Edwin B. Snow reports that he has a good position with the Burroughs Adding Machine Company and expects to be married shortly.—H. J. Macintire has resigned from the National Lead Company to take a position in the Lawrence Scientific School, and announces his engagement to Miss Elizabeth May Jelliffe, of Brooklyn.—Eugen F. Kriegsman wrote shortly before the reunion that he hoped to be able to come, but is a prac-

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tising civil engineer in Berkeley, Cal., and has a growing amount of work of important nature to look after, which evidently kept him from coming.—J. A. Pitts wrote from Johannesburg that, if he was only a short distance away, like Mexico or Seattle, he would surely have come to the reunion, but eleven thousand miles was too long a walk. He expects to visit the United States in about two years, and hopes to find some of the old crowd.—John Glidden sent regrets from Peru that he could not be present, and asked the secretary, if by any chance he should get off the wagon at the reunion, to take "just another one" for him.—W. T. P. Mader wrote from Seven Troughs, Nev., that he had exchanged his slide rule for a pack-saddle several æons ago, and until they get to carrying bullion on the stage any one in camp who can make a noise like a piece of money is straightway surrounded by a host of admiring friends. He says, although his stay at Tech was wofully short, it was long enough to endear it to him, and he feels as loyal to '05 as any member who received his sheepskin.—Ned Jewett could not come, because, as manager of the Houston office of H. L. Stevens & Co., he had to deliver finished a theatre building in that city by October 1.—Herbert Wilcox couldn't come because he had to stay home and amuse the baby, but will be there next time and bring the whole family.—Ben Lindsley sent best wishes and regrets from Patagonia, Ariz., where he is with the Mansfield Mining and Smelting Company.—Walter Bent sent his love to the boys, and announced the birth of Walter Frederick Bent on May 1. Said he always knew Bobby Folsom would be an old bach, but about Zeke Coffin and Bob Lord,—there was no excuse for them.—Bill Motter sighs from Orogrande, N.M., "Oh for just one 'We are Happy'!"—Russell Willson, who was with the class for one year before entering the Naval Academy, sent regrets and best wishes from the United States steamship "Milwaukee," then at Bremerton, Wash. His address, as well as those of R. C. Grady and W. A. Hall, is care Navy Department, Washington, D.C.—Seedy Klahr expected to be with us at the reunion, but was disappointed, as was Leonard Bushnell.—H. M. Edmunds sent best wishes for success of the "only Class" from 71 Upper Tulse Hill, Antron, S.W.—J. C. Eadie expected to be able to come, but instead took a position with Siemens Brothers, Limited, at Castletown, Isle of Man, which was too far away.—Dan Harrington was at camp one day, and then had to leave on his trip of visiting the different plants of the DuPont Powder Company, preparatory to starting up the newest and largest plant, near Seattle, of which he is to be superintendent. Dan did not talk much about it, but after he had gone the secretary learned

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that at a recent fire in the Barksdale plant some of Dan's workmen were inclined to bolt, but he secured a shot-gun and, threatening to shoot any man who ran, got a large amount of dynamite safely out of danger, and averted a catastrophe.—Roy Allen and his brother, who made a camping and prospecting trip in North-western Canada this summer, had a rather thrilling experience. While crossing a swift river, their horses and outfit were swept away, and all lost but one horse, on which they had to get back to the nearest civilization, ninety miles, with snow on the ground and nothing to eat but some birds caught on a nest.—Joe Daniels made a trip to Scotland, England and France this summer, and reported that he had a "bully" time.—Mr. and Mrs. Claude A. Anderson announce the birth of Townsend Canfield Anderson on April 3.—The engagement of Miss Elizabeth Curtis Kendall, of Winchester, and Fred H. Abbott, of Houghton, Mich., is announced, also that of Miss Isabel L. Turner, of Bath, Me., and Arthur E. Russell.—Victor H. Paquet was married on June 2 to Miss Mabel M. Haggett, of Edgecomb, Me. Vic reports interesting times in connection with the tests of the record-breaking "Flusser," on one of which the circulating pump got clogged, and he and two others had narrow escapes from getting scalded by live steam blowing through the weighing tanks.—Herman Eisele and Miss Bertha Marguerite Uhl, of Cleveland, were married on the 25th of August.—Edwin B. Snow is to be married on October 9 to Miss Marian Graham, of Milltown, N.B.—On the 14th Grosvenor D'W. Marcy and Miss Helen F. Carter, of Ashmont, are to be married, and on the 20th Warren K. Lewis and Miss Rosalind D. Kenway are to be married in Newton. Miss Kenway is Hub Kenway's sister.—On May 4 a daughter, Jeanette Pierce, was born to Mr. and Mrs. Charles E. Smart at Greenfield, Mass.—W. L. Spalding has recently been elected professor of electro-chemistry at the University of Buffalo. He has been giving a course of lectures there, and the title has been given him in recognition of his standing as an expert in this line.—Leonard W. Cronkhite, who left the Institute our second year to go to Brown University, and was sent from there as a Rhodes scholar to Oxford, has returned, and is now treasurer of the Industrial Starch Company, manufacturers of mill starches, also treasurer of the Meiklejohn-Cronkhite Company, toy manufacturers. On May 14 of this year he married Miss May H. Hartwell, of Providence, and is living in Hingham, Mass. His business address is 369 Atlantic Avenue, Boston.—H. H. Nelson is in the Inspection Department of the Associated Factory Mutual Fire Insurance Company, address 31 Milk Street, Boston, Mass.—"Mike" Mackie is president of the

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Commercial Auto Company, Milwaukee, Wis., and wants to know "what in thunder the rest of the bunch is doing."

1906.

FRANK A. BENHAM, *Sec.*, 164 High Street, Room 331, Boston, Mass.

The secretary will be glad to hear from any of the fellows; if you have time for nothing more, drop us a post-card. Let us hear where you are and what you are doing; by so doing, it will greatly help the secretary, and will be of interest to all the fellows.—Bardwell, who has been working on Volumes III. and IV. of Professor Richards' book on ore dressing, is looking for another job. The books are now published.—Fay Libby is still at the Vulture Mine in Wickensburg, Ariz.—McKay was in Boston recently, spending his vacation.—Matheson is working in the talc mines in Gouverneur, N.Y. His address is 208 East Main Street, Gouverneur, N.Y. —Mears is still with the Nevada Consolidated Mining Company.—Watt is now in Boston; during the coming year he will be Professor Richards' assistant.—Arthur Wells is in the East, spending his vacation; in September he will return to Utah.—Joe McKernan is still with P. M. Blake, civil engineer, Newtonville, Mass.—Wetterer is back in Boston for an indefinite period. He is still working for Stone & Webster.—Mr. Bruce R. Honeyman was married to Miss Marion Blakeley, of Tacoma, Wash., June 2, 1909.—Campbell, who has been working in Washington in the United States Department of Architecture during the summer, expects to return to Carnegie Institute in Pittsburg, where he will teach during the coming year.—Mark Place writes that he is just recovering from an attack of typhoid fever which he contracted in North Dakota, where he was working for the C., M. & S. P. R.R.—Indirectly we heard that Kenneth H. Derque was recently united in marriage to Miss Jane Murray, of St. Paul.—The following item was taken from the Boston *Journal* of September 4: "Miss Margaret C. Fuller, of Exeter, a former student at Radcliffe College, has left here *en route* to Portland, Ore. Upon her arrival in the Pacific Coast city, Miss Fuller will be married to Edward M. Eliot, an engineer of that place."

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1907.

BRYANT NICHOLS, *Sec.-Treas.*, 143 Garland Street, Everett, Mass.
W. W. BIGELOW, *Res. Sec.*, 399 Lexington Street, Waltham, Mass.

I. *On the Part of the Secretaries.*

Important events have taken place with our first secretary. On September 14 Bryant Nichols and Miss Elsie L. Fogg were married at the First Congregational Church in Chelsea. Our class was honored by Harold Wonson, who acted as best man. Arthur Jealous and Bob Thayer were among the ushers. A reception was held after the ceremony at 143 Garland Street, where some other members of the class had an opportunity to congratulate Bryant in his new home. The best wishes for the future to him and also to Clarence Bowen, who, we have learned, is to be married on October 15.—Congratulations are due to J. M. Gaylord and Lawrence Allen. Cards have been received from Mr. and Mrs. James M. Gaylord and from James Macdonald Gaylord (July 13). Lawrence Allen, Jr., was born August 28.—Clarence Howe has just finished his summer's work with J. R. Worcester & Co., of Waltham Mass., and returns to Halifax, N.S., to resume his duties as professor of civil engineering at Dalhousie University.—J. H. Leavell sustained a serious injury to his foot. It was badly crushed by being caught in machinery. It was at first expected that he would have to have it amputated, but it is believed now that it can be saved. He is at present staying at Quincy, Mass.—The complete list of our district correspondents is now as follows: New England, A to G, C. E. Allen, Spencer, Mass.; H to R, H. S. Wonson, M. I. T.; R to Z, B. Nichols, 143 Garland Street, Everett, Mass. New York, S. R. T. Very, 410 West End Avenue, New York, N.Y. Washington, D.C., G. A. Griffin. Southern, O. G. Fales, 418 Common Street, New Orleans, La. Chicago, J. M. Frank, 3810 Grand Boulevard, Chicago. Pittsburg, M. E. MacGregor. Denver and Rocky Mountains, J. M. McMillan, Denver Gas and Electric Company, Denver, Col. Pacific Coast, J. W. G. Hanford, E. 1913 Providence Avenue, Spokane, Wash. Foreign, W. W. Bigelow, 399 Lexington Street, Waltham, Mass.

The idea of having district correspondents is, of course, to help us gather class news systematically. If you have any news, don't wait for a correspondent to worm it out of you. Send it to any of us. We want to hear from you.

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II. *Letters.*

Charlie Allen writes from Spencer, Mass.:—

I guess I have settled down here in the old town for the rest of my working days. You know I have gone in with a shoe manufacturing company here, and like the business. There is enough of complexities in the business to make a fellow use his brain so much that he is reminded of the "applied" and "structures" of the old days.

—M. E. McGregor sends us correspondence.—Sidney Wells says he enjoyed the last reunion so much he is already looking forward to the next one.—Harold Wilkins is in the concrete engineering department of the General Fire-proofing Company, Youngstown, Ohio. He was compelled to give up a very good opening with the Republic Iron and Steel Company because of a trouble with his knees.—T. W. Roby, Jr., has worked through the apprentice course of the McClintic Marshall Construction Company of Pittsburg, and is now in the draughting-room of that company in their Rankin plant—Van der Stucken is with the same plant. We have also to put Van der Stucken on the list of married men.—From Oil City, Pa., D. E. Russ writes:—

So the Class of '07 desires to "know my deeds." Well, then, listen to the chronicles of the Old Married Man. I say "Old Married Man," because the happy event took place as long ago as June 30, 1909, when I was married to Miss Blanche L. Walton, of Wakefield, Mass. As to occupation, I am president of the Russ Manufacturing Company and superintendent of the Siverly Works. These works consist of three buildings, one 50 feet by 150 feet, one 32 feet by 45 feet, and one 32 feet by 36 feet, all two stories in height. The works are located on the Allegheny Division of the Pennsylvania Railroad, on about two acres of ground. We make a specialty of gelatine for Moving Pictures and Photographic Purposes. I guess this will fill all the space I am entitled to, and so I will "ring off" and give some one else a chance. Hurrah for '07!

—M. E. MacGregor writes of himself,—

I am to be in the Pawtucket (R.I.) high school this year in charge of the mathematics, and hope to help some fellows here enter Tech next fall.

—Hanford writes from Spokane, Wash.:—

Since the first of the year I've been steadily at work, most of the time holding down a "civil" job instead of mechanical. The 1st of August I changed from an unsatisfactory to a satisfactory position, the latter with a consulting engineer having irrigation and hydraulic power plant work on hand. This is a combination of the different branches of engineering, and I shall like the work. There is also an opportunity for advancement in a good line.

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—Turnbull writes from the Hampton Institute, Va.:—

Well, after I left the bunch, I went with the New York Central, and lived the simple life at home, until the cyclone came, which struck me as well as many others. After being up in the air awhile and roosting in the tops of two or three trees, I blew down here to a very interesting place. This is the pioneer industrial school for negroes, as you all know, out of which Tuskegee and all others have grown. I hear that Terrell ('06) is in the same business out in Texas, and hope to have a visit from him soon.

—From Chipman, department of mines, Geological Survey, Victoria B.C.:—

My life this summer has been full of work and the finest kind of experience, but, somehow, thoughts of the old days and old friends come up every once in a while. Life and work now are too good to wish them back again, but I would like to pick out certain spots in them and have the old enjoyments once more. I am still with the survey, and, if the character of the survey develops according to present indications, I'll probably want to stay always. I have been glad every day since June, '08, that Canada is my country, and the future of the survey and the country makes me proud of them both and expectant of great things.

As you know, I was here last year, and am here again. This year as assistant to R. H. Chapman, of the United States Geological Survey, who has been loaned to us to assist in the organization and development of our young topographic branch. He has had nearly thirty years of experience with the United States Survey, and I was more than pleased to be sent out as his assistant. The opportunity looked good to me, and I have stuck pretty closely to the job all summer, doing my little part to make good.

You threaten to come to Ottawa, and, if you do, I'll pretty near kill you with a touch of real Canadian winter life. Even now I am looking forward to the snow and the skiing, the skating and the tobogganing that we have. It is certainly a dandy life that we have in the winter.

This also has its good features. In New York, hot nights, think of me in camp, sleeping with five thicknesses of heavy blanket and only a sweater for a pillow. If the days are hot, think of me on some mountain-top, shivering in the wind, with fingers too numb to work an instrument. Also, if you are enjoying yourself with pleasant company and stuff that fizzes, think of flies so bad that full-grown men will lie down and cry, with blood streaming all over their faces. Think of these things and then go at your own little job hard, and know that you are happy.

—Sam Very has sent news from the New York district: From Carl J. Trauerman:—

I am on the editorial staff of the Wall Street *Journal*, doing mining and industrial investigating and writing, incidentally picking up an acquaintanceship with the big men of "The Street" and learning something about the financial side of mining and other corporations.

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—From Harry N. Burhans, Burhans & Black Company, Syracuse, N.Y.:—

I started in the hardware business about two months after Commencement, and have been at it ever since. Expect to stay at it as long as it lasts, as I do not see any chance for getting away from it. It is very fair, so I suppose I have no kicks coming. I do not know of anything else of interest around here, except that we have a Central New York Alumni Association of about twenty-six members, and we get together about every month at one or the other of the houses of the members and have a smoke.

—John T. Fallon's writing paper is headed Aymar Embury (II.), architect, 1133 Broadway, New York: "Am now accepting money from the above, with very enjoyable work and a great deal of it."—Arthur T. Remick, architect, writes from New York:—

I am just finishing my first year of practising in New York with success, and a bright future. Of course, you know, previous to that I spent more than half a year travelling abroad.

—From Bonta, Syracuse, N.Y.:—

I am still in the same position with an old Technology man, Alfred T. Taylor, and hope to stay on indefinitely. Ours is an out-and-out Tech office, what there is of it. The one steady draughtsman besides myself we are sending to Tech this fall for the special two-year course, and during the months of August and September we have Winston Phelps with us.

Work in our office at present seems to multiply faster than we can handle it, and prospects for this coming winter are exceedingly bright. I am particularly glad of my position, because, being in a small office, I am called upon to give fully as much, if not more, time to specification writing and superintendence than to drawing.

—Sam Very doesn't say much for himself, but the indications from his letter-head are that he is in business for himself as an architect. Chipman promises Sam shall design him a bungalow when Chip marries.

III. *Changes of Address.*

The district correspondents are requested to change their list of class members from the changes of address as they are published in the REVIEW: P. L. Adams, 172 West Canton Street, Boston, Mass.—R. C. Albro, 69 Gainsboro Street, Boston, Mass.—J. M. Barker, 117 College Avenue, Elmira, N.Y.—Rutherford Bingham, 1019 16th Street, Washington, D.C.—W. B. Cain, 10 Bates Street, East Weymouth, Mass.—J. S. Coupal, 821 East 4th Street, South Boston, Mass.—W. D. Davol, 107 Sycamore Street, Somerville, Mass.—L. C. Hampton, Webb City, Mo.—E. W. James, 61 South Highland Avenue, Ossining, N.Y.—W. F. Kimball, 84 State Street

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(Room 513), Boston, Mass.—J. H. Leavell, care Tom Jones, Buffalo Mine, Cobalt, Ontario, Canada.—H. C. Libby, American Bridge Company, Pencoyd, Pa.—Howard Marvin, 14 Giles Avenue, Beverly, Mass.—K. Moller, 29 Weybosset Street, Providence, R.I. —W. P. Monahan, Ophir Tunnel, Smuggler, Col.—H. L. Moody, 508 Cranston Street, Providence, R.I.—F. A. Naramore, 812 Marshall Street, Portland, Ore.—A. T. Remick, 3 West 29th Street, New York, N.Y.—R. C. Sampson, 22 Washington Street, Medford, Mass.—J. E. Tresnon, 95 Summer Street, Everett, Mass.—J. D. Whittemore, 159 Washington Street, Newton, Mass.—W. L. Woodward, 1513 16th Street, Washington, D.C.

1908.

JOHN T. TOBIN, *Sec.*, care Virginian Railway Co., Norfolk, Va.
RUDOLPH B. WEILER, *Res. Sec.*, 26 Brooks Street, Brighton, Mass.

The following engagements have been announced: Miss Myra A. Bates, of Whitman, Mass., to Miles Sampson.—Miss Julia M. Brown, of Cambridge, to H. C. Elton.—R. E. Schirmer was married on July 22 to Miss Helen Robinson, of Pittsburg, Pa. They will reside at Idaho Springs, Col.—E. R. Smith was married on June 13 to Miss Annie K. Kalber, of Roxbury. They will live in Malden.—Lawrence C. Hampton was married on April 21st to Miss Harriet M. Clark, of Grand Rapids, Mich. He is located at Cleveland, Okla., where he is engaged in zinc mine and oil well work.—W. A. Morris writes from Twin Falls, Ida., under date of May 31:—

I just received your letter announcing the reunion, and am very sorry that I cannot be there. The mail service here is very poor, as I am only forty miles from the railroad, so you will please excuse me for not answering before this. If you see any of the '08 Civil Engineers, please give them my best. Enclosed, you will find check for my class dues for '09.

—Emerson F. Lyford writes on the letterhead of the Cudahy Packing Company, South Omaha, Neb., under date of June 7:—

My business address is at the top of this letter, and my home address is 1218 North 26th Street, South Omaha, Neb. I have an excellent position as chemist for this company. The chemical work is in charge of Mr. Wilson H. Low, an old Tech man, and there are two other assistants besides myself. The work is pleasant, and the experience will prove very profitable, I am sure. . . . I deeply regret being unable to attend this year's reunion, but shall endeavor to be present in 1910. Give my best regards to any '08 men you may see who know me, especially Course V. fellows.

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—A. T. Hinckley writes from the National Carbon Company, Clarksburg, W. Va.:—

Just a line to let you and the other fellows of '08 know that I am down here in the land of hog meat and hominy as chemist for the National Carbon Company. If you know of any of the fellows being around in this part of the world, I wish you'd let a fellow know, and we'd do our darndest for a private reunion.

—The following is a clipping from the Boston *Transcript*, Sept. 22, 1909:—

Tsok Kai Tse, of Canton, China, is registered at Colorado Springs. He is one of a number of young men who were sent to America a few years ago by the Chinese government to be given a technical education, with a view to introducing modern methods in the Chinese empire. Tsok Kai Tse was an earnest student in China, and, when the government advertised that an examination would be held to determine which of the young students would be sent to America at the expense of the government, Tsok Kai Tse prepared for the test, and passed with honors. He had been studying English for five years, and his knowledge of the language assisted him materially.

He was sent to the Institute of Technology at Boston, where he studied for five years. He afterward took a post-graduate course, and received the degree of Master of Science. Since last June he has been travelling under a commission from the Chinese government, investigating modern gold mining and milling methods. He will go to Cripple Creek, and will later visit the gold mining camps in Arizona and Nevada.

—We regret to hear the following from Joe Reid, under date of August 6, from Canton, Miss.:—

I'll not be in Boston again for several months. After a six weeks' stay at the Massachusetts General Hospital for rheumatism, I came home just a few days ago. I have a real case of it, and can barely hobble along,—much like an old decrepit gentleman of eighty,—but I am improving slowly, and, though it may take several months, I hope to be myself,—young again.

—The resident secretary is glad to say that to date, October 7, one hundred and fifteen fellows have paid their dues for 1909, one dollar. It is hoped that those who have not yet done so will remit, as the year is drawing to a close. Several reply cards were received minus the signature (as well as the remittance). Was yours one of them? Your resident secretary has just returned from the Panama Canal, where he has been spending the summer, but is now back at the old stand at the 'Stute.—At last we have heard from the long lost "Spike" McGuigan. He is with the F. H. McGuigan Construction Company, general contractors, 611 Continental Life Building, Toronto, Can. He says that he has moved around so much

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that he has lost track of most of the fellows, and now wants to hear from them. The following changes of address have been received: C. D. Putnam, 127 Angell Street, East Side Station, Providence, R.I.—A. C. Sloss, Dallas Electric Light and Power Company, Dallas, Tex.—W. I. Keeler, P. O. Box 9, Hartford, Conn.—R. Ogarrio, 6th Heroes 103, Mexico City, Mex.—C. L. Hussey, 1547 Smith Street, Providence, R.I.—P. J. Hall, 549 Fullerton Building, Chicago, Ill.—I. M. Guilford, West Cheshire, Conn.—C. N. Draper, 1421 Arch Street, Philadelphia, Pa.—L. A. Clark, 108 South Main Street, Kewanee, Ill.—C. H. Bangs, 45 Town Street, South Braintree, Mass.—H. A. Rapelye, 500 Westinghouse Building, Pittsburg, Pa.—E. L. Brown, 3517 Lucas Avenue, St. Louis, Mo.—H. L. Fletcher, Edison Electric Illuminating Company, 39 Boylston Street, Boston, Mass.—W. C. Folsom, 2105 First Street, N.W., Washington, D.C.—F. E. Goodnow, 540 Washington Building, Chicago, Ill.—H. W. Griswold, United States Engineer Office, Custom House, Nashville, Tenn.—W. W. Karnan, 1818 Wright Building, St. Louis, Mo.—C. C. Kinsman, 424 Prairie Avenue, Decatur, Ill.—E. H. Newhall, 238 Summer Street, Lynn, Mass.—F. N. Peirce, 252 Franklin Street, Newton, Mass.—H. J. Ruggles, 65 Wendell Street, Cambridge, Mass.—L. H. Sutton, 1331 Fairmont Street, Washington, D.C.—C. Youngerman, care Grosvenor & Atterburg, 20 West 43d Street, Yonkers, N.Y.—F. K. Belcher, 204 Columbia Heights, Brooklyn, N.Y.—C. A. Brown, Room 914, 6 Beacon Street, Boston, Mass.—D. Cairns, 171 Townsend Street, Roxbury, Mass.—A. W. Heath, 147 Milk Street, Boston, Mass.—H. W. Hoole, 222 10th Street, Milwaukee, Wis.—R. Y. Kennard, 98 Main Street, Winsted, Conn.—W. B. Kirby, 502 Wooster Street, Wellesley Hills, Mass.—E. A. Plumer, 96 Federal Street, Newburyport, Mass.—W. E. Poor, 20 Sylvan Street, Danvers, Mass.—J. B. Sando, 112 Huntington Avenue, Boston, Mass.—A. E. Skillings, 26 Milford Street, Boston, Mass.—C. M. Steese, Mt. Holly Springs, Pa.—H. E. True, Newburyport, Mass.—G. J. Venn, 24 Institute Road, Worcester, Mass.—Kurt V. Vonnegut, 1069 Beacon Street, Brookline, Mass.—D. B. Myers has given up his position with Mine la Motte in South-eastern Missouri, and has opened an office in Los Angeles, as a mining engineer.—Leo Loeb is instructor in thermo at Rensselaer Polytechnic Institute, Troy, N.Y.—Ben Bullard is with the Utah Light and Railway Company, Salt Lake City, Utah.

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1909.

CARL W. GRAM, *Sec.*, Mass. Inst. of Tech., Boston, Mass.

After being present at such inspiring scenes as took place during alumni week last June, and witnessing how full of enthusiasm and Tech spirit the older grads were, '09 surely ought to try to stick together and be as loyal alumni as possible. Now the first requisite for a good alumnus is to join the Alumni Association. The yearly dues are $2, and this includes a subscription to THE TECHNOLOGY REVIEW, which will thus insure keeping in touch with the other fellows of the class, as the addresses will, so far as possible, be kept up to date. The REVIEW is absolutely the best way to get a line on the Institute affairs, so dig up the necessary wherewithal, send us your address, and tell us what you are doing. Also, if there is some other chap located near you, throttle him, and compel him to do likewise. Thus far the secretary has received only three letters from fellows in the class. W. Craig Ferguson (II.) writes from Walla Walla, Wash., that he is out there working with Eugene Hunt, an old '09 man, and, as he is a long way from God's country, would be tickled to death to get any news from the fellows. Address is care Gilbert Hunt Company, Walla Walla, Wash.—J. Stewart Peirce (III.) says:—

For the present I am located in Tulsa, Okla., with an independent oil producer. It is a great country out here, and I am surprised that there are not more Tech men in this vicinity. The weather is a little warm at present, for the thermometer reaches between 105° and 111° almost every day.

Address is care P. D. McConnell, Tulsa, Okla.—"Bill" Kelly has gone "across," to study at Leipzig. In a letter to the secretary he says in part:—

I landed at Bremerhaven a month ago to-day (September 26), and since then have been to Bremen, Hannover, Hamburg, and Berlin. I stick to H's and B's, but have no P's or C's to my credit yet, and only one "L,"—Leipzig. Next week I am going to live with Ed. Williams' ('08) brother, who is here studying medicine. Christmas we are going to Rome to see Ed, who will be there for three years, as you know he won the "Prix de Rome" last year in Course IV.

—There are a big bunch of '09 men back at the 'Stute this year. Mollie Scharff, as "President's Assistant," is still looking out for our welfare. He also has charge of the Union dining-room, which is a bigger proposition than ever. There are twenty-nine men back

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as assistants; and due to the fact that we had such a bunch of "fussers," Tech Show men and fellows interested in all the activities, '09½ is too numerous to mention. The assistants are as follows: Course I., "Art" Shaw, "Doc" Lovewell, M. W. Rue, W. W. Clifford and F. R. Faulkner; Course II., "Dick" Ayres, Willard, Nickerson and Smith; Course III., "Ted" Chapman; Course V., Christie, Connolly, Healy, Trenthardt and St. John; Course VI., R. C. Glancy, G. H. Gray and C. L. Dawes; Course X., "Jack" Elbert, "Nut" Campbell, Carl Gram, "Spec" Paine and L. R. Forrest; "Lou" Beers and ("Blank") Blankenbuehler intended returning, but decided differently during the summer, and have gone into business; Course XI., R. W. Gilbert; Course XIII., K. T. Blood; Course XIV., "Lord" Hersey, "Bill" Read and G. E Washburn. Following are the business addresses and such notes as the secretary was able to get. This list would be much more complete if you fellows would invest one cent ($0.01) in a postal card, write your own name, address (and such part of your last three months' experience as you care to pass along) on the back, the secretary's address on the front, and drop the card in a mail box.

Course I. B. Y. Burgher, Penn Bridge Company, Steelton, Pa.—J. C. Dort, American Bridge Company, Chicago.—L. J. Towne, United States Government Reclamation Service, Reno, Nev.—K. Madenigian, Department of Bridge Design, New York Central Railroad.—E. D. Merrill is with the Union Pacific Railroad near Denver.—T. F. Hickerson is teaching structures and bridge design at the North Carolina University.—P. Parker is working on the Cambridge Subway.—Dan Pepper is with the South Pacific Railroad in Arizona.—K. J. Campbell, assistant superintendent of Gas Engine Works, Mt. Vernon, Ohio.—H. W. Congdon, W. D. Greene and C. W. Radford are with the American Bridge Company, Brooklyn, N.Y.—"Tug" Wilson has been spending the summer shooting in the Adirondacks.—K. C. Gaynor has opened an office of his own in Sioux City, Ia., and is doing considerable contract work.

Course II. M. J. Cole is with a constructing engineer, L. B. Dow, Boston.—F. J. King, Linde Air Products, Buffalo, N.Y.—R. V. Zahner with Riter Conway, Pittsburg.—Rountree is teaching in Newberry College, South Carolina.—Bullard is with the Commonwealth Electric Company, Chicago.—"Reg" Millard is supposed to be somewhere in the Province of Quebec.—Hartwell, with the Hartwell iron concern.—Inglee, B. F. Sturtevant Company, Hyde Park, Mass.—Keables is in a mechanical engineer's office in Lowell.—Marshall, Automatic Refrigerating Company, Hartford, Conn.—

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Reeds is with the Cork Seal Company, Millis, Mass.—Spencer is at the Blanchard Machine Company, Cambridge.—Wallis is with the Walker Furnace Company, Boston.—Gilkison is in Provo, Utah, with the Telluride Power Company.—C. J. Belden toured Europe this summer in a Packard, travelling through Italy, Germany, France and Russia, but is back for another year at the Institute.—Phil Young is located in Akron, Ohio, with the Goodyear Rubber Company. Address is 92 Nebraska Street, Akron.—Ben Dow is with Stone & Webster, Columbus, Ga.—Goro Tomonaga is lieutenant commander in the Japanese navy.—Ohnuki is taking some courses at Worcester Polytechnic.—Weeks is with the Morse Twist Drill Company, New Bedford, Mass.—Howard Fisher is with Marks & Woodwell, Park Avenue and 41st Street, New York City.—A. S. Peat's address is 7 Fallon Street, Boston.—Temple is in Fitchburg with the Cowdrey Machine Company, while Thornley is in Pawtucket.—R. H. Nichols is working in Cohasset, Mass., with the War Department on Intra Coastal Canal.

Course III. E. T. Almy, Jr., assistant mining department, M. I. T.—T. B. Black, Vulture Mines, Wickenburg, Ariz.—G. T. Bridgman, Cerro de Pasco, Peru.—A. E. Burt, University Mine, Cobalt, Ontario.—E. P. Chapman, A. S. & R. Co., Pueblo, Col.—M. S. Clark, Orogrande, N.M.—M. J. Daly, Utah Apex Mine, Bingham, Utah.—N. B. Gregory, Zinc Mining, Joplin, Mo.—L. S. Gordon, supposed to be in Utah.—V. C. Grubnau, Velardena, Durango, Mex.—J. C. Hammond, Boston *Transcript*.—F. Jaeger, North American Lead Company, Fredericktown, Mo.—G. A. Joslin, Cobalt, Ont.—L. A. Loomis, Ray Central Mine, Kelvin, Ariz.—P. B. Lord, Velardena, Durango, Mex.—E. M. Loring, Cobalt, Ont.—P. H. Mayer, A. S. & R. Co., Denver, Col.—T. C. Merriman, Coe Brass Company, Torrington, Conn.—G. Miller, Minas del Tajo, Rosario, Sinaloa, Mex.—R. F. Munoz, mining engineer, Saltillo, Coahuila, Mex.—H. R. Putnam, Mammoth Smelter, Kennett, Cal.—R. O. Reed, American Tar Company, Malden, Mass.—W. Reilly, Cobalt, Ont.—B. A. Robinson, Mogul Mining Company, Pluma, So. Dak.—H. Schaffer, 7 Follen Street, Boston, Mass.—H. C. Schriefer, Ray Consolidated Company, Kelvin, Ariz.—F. H. Soderstrom, Mammoth Smelter, Kennett, Cal.—H. J. Stiebel, 408 Judge Building, Salt Lake City, Utah.—T. K. Tse, Vulture Mines, Wickenburg, Ariz.—H. Webb, Ray Central Company, Kelvin, Ariz.—C. Y. Wen, Livingston Hall, Columbia University, N.Y.—C. H. White, Buffalo Smelter, Austin Street, Buffalo, N.Y.

Course IV. T. H. Atherton is in Wilkesbarre, Pa.—W. P. Blodgett, care Guy Lowell, Tremont Building, Boston.—J. C. Bollenbacher,

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4123 Drexel Building, Chicago.—H. D. Bonnetheau, H. M. Glazier, A. G. Kellogg, L. H. King, are back at the "'Stute," working for their S.M. degree.—C. J. Brown, 1314 East 62d Street, Chicago.—F. A. Burton is with Allen & Collens, 6 Beacon Street, Boston.—K. E. Carpenter, D. W. Phelps, G. F. Shaffer, R. Simmons, are also back at the Institute.—Monte Flagg, 90 Washington Street, Hartford, Conn.—T. G. Machen, 217 West Monument Street, Baltimore, Md.—W. A. Meanor, is in Pittsburg, care Alden & Harlow, Farmer's Bank Building.—A. F. Menke, 4123 Drexel Building, Chicago.—H. E. Myers is with G. W. Carmichael & Co., Hamilton Building, Akron, Ohio.—V. E. Seibert is in Pittsfield, Mass., with McLaughlin & Seibert, architects.—L. Svarz is at 2120 First Avenue, North Seattle, Wash.—Misses Longyear and Thompson are in New York, and Miss Packwood in Tampa, Fla.—Miss Luscomb, Ashford Street, Allston.

Course V. A. K. Comins, Page Belting, Rochester, N.H.—Wiswall made a flying visit from Cleveland to Boston, and dropped in for a few minutes on the secretary. He is with the National Carbon Company, and is supervising the making of brushes for dynamos and generators.—B. D. Dyer is head of the Publicity Department, and there are three other Tech men employed in the same works. Address is National Carbon Company, 11514 Detroit Avenue, Cleveland, Ohio.—H. B. Trevithick was married this summer, and is now with the Southern Cotton Oil Company, Vicksburg, Miss.—M. P. Whipple is with Stevens & Whitman Co. Philadelphia (a confectionery and cocoa concern).—Gadsby's address is 511 College Street, Marietta, Ohio.—Miss Babcock is private assistant to Professor Talbot.

Course VI. C. W. Gammons and H. B. Winterstein are with Stone & Webster.—O'Neill, Interborough Rapid Transit in New York.—Harry Whitaker is with the Boston & Albany Railroad, home address.—Jim Finnie is with the National Electric Lamp Company, and is located in Cleveland.—"Jack" Moses acted as general manager at Chester Pope's hotel during the summer months, but is now travelling on the Pacific Coast for Pettigrew & Andrews Electrical Supply Company.—Altamirano is with the Electropura Company, South America. Address is 2A Edison 45, City of Mexico, Mex.—Fred Green and Mills are at the University of Colorado.—Applin has just passed examinations for the Coast Artillery, and is rated as second lieutenant.—Jones and Winchester are back at the Institute, working for M.S. degrees.—Barnett is in Boston with the Boston Elevated.—Dunnington is in Philadelphia with the Bell Telephone Company.—Porosky is working for the

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Holzer Cabot Company, Boston.—Shackney is in Pittsburg with the Westinghouse Electric Manufacturing Company.

Course X. E. Q. Adams is working in the Research Laboratories of the General Electric Company at Schenectady, N.Y.—L. G. Beers is located with the Southern Ferro Concrete in the Equitable Building, Atlanta, Ga.—R. Blankenbuehler is making vanillin, etc., for the Monsanto Chemical Company, St. Louis.—Bradley Dewey is in Vandergrift, Pa., with the American Sheet and Tin Plate Company. —Campbell is working with Badger & Sons, Pitts Street, Boston, and is at the same time carrying on his assistant's duties at the " 'Stute."—"Walt" King is back at the Institute for another year.— "Chet" Pope intended to return, but decided to remain in the hotel business and make extensive additions to the Cliff House during the winter. He is at present taking a much-needed vacation, travelling through the Western States, as during the summer hotel season one of his colored employees slashed him with a razor so that it was necessary to take fifty-five stitches on his head. It was a close call, and "Chet" was laid up for some time.—C. S. Robinson leaves October 16 for a trip around the world on one of the Clark's tours. He is looking forward to meeting the wild men of Borneo, and expects to shoot big game in India, Java and Ceylon. "Robby" promises to send postals to all the Course X. bunch, and, if any of the fellows wish to correspond with him, letters sent to the secretary will be forwarded to him at once.—And say! What do you know about this? J. N. Stephenson, of cross-country fame, is engaged to be married. We understand the event is scheduled for next June. Good work, "Steve," and congratulations. Stephenson is teaching mathematics and athletics at Lawrenceville Academy, Lawrenceville, N.J., and under his coaching the first requirement of a cross-country man is to learn "We are happy" and the "regular M. I. T."—"Link" Soule is in Akron, Ohio, with the Diamond Rubber Company.—E. E. Wells is in Billerica, Mass., with the Talbot Chemical Company.

Course XIV. (formerly VIII_8). Jim Critchett's address is 7615½ Saginaw Avenue, Chicago. He is with the Illinois Steel Company.

In order that the fellows may more readily obtain the news they are most interested in, the secretary will endeavor to arrange the news by courses, so that each fellow in looking over the class news in the REVIEW may easily find the addresses and facts about the fellows with whom he was most closely associated while at Tech. There has been no attempt made to give addresses of fellows who have not gone into business, as these can be readily reached through a *Technique* or Senior Portfolio. Any suggestions which will help

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the work along will be gladly accepted by the secretary. It is one large job to keep track of over five hundred address cards, and also correspond with some of the fellows who are good enough to write, so, when the work is fairly started and the fellows are permanently located, assistant secretaries will be appointed, having charge of a certain district, thus enabling us to keep in closer touch with all the fellows. What we want is news, and, if the bunch will only stick together and let us have a letter from each and every '09 man, woman, or child, we will have a collection of reading matter worthy of THE TECHNOLOGY REVIEW. Remember, we have the best undergraduate annual, and it is up to us, as alumni, to do our share towards helping the REVIEW. To affiliate with the Alumni Association, send $2, by check or otherwise, to Walter Humphreys. Any graduate is a member of the Alumni Association, and any fellows who have attended the Institute or have taken special courses may apply for an associate membership. Blanks will be sent on application.—Mr. W. F. Jones has been spending a few days in Boston on his way from Nantucket to California. Mr. Jones was of the Class of '09, and took special work in geology. He left the Institute in June, 1908, to go to California, where he took a special course in geology at the University of California, and did field work on an area in Santa Cruz County. The results of his work have been published in the form of a bulletin. He came East this summer to take up work on the beaches at Nantucket. This work was in the nature of a study of the control of beach sands and of beach formations, and was a continuation of investigations begun by him while a student at the Institute. He has met with results much better than he had expected, and by means of jetties and fences he has been able to develop beaches on the harbor side of Nantucket to the profile which he desired. Just now he is going back to California, where he expects to work in the oil fields this coming winter, and return to the Institute next fall to pursue special work.

After the above was written, the following addresses were obtained:—

Course VI. D. G. Haynes is with the St. Louis and Suburban Railroad.

Course II. Carleton Hubbard is with the firm of Marks & Woodwell, Park Avenue and 41st Street, New York, but is working in Boston.

Course VII. R. N. Hoyt, Metropolitan Sewage Commission, New York.—A. F. Stevenson is working in Tarrytown, N.Y., in the water department.—E. A. Robinson is a student at the Tufts

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Divinity School.—Schneider is back for an M.S. degree, and G. T. Palmer is assistant in the Sanitary Research Laboratory.

Course XIII. Shen is back, working for an M.S. degree at the Institute.—Masjoan is somewhere in Argentine Republic.—X. R. Smith is with the Navy Department at Washington.—Harriman is thought to be with a yacht designer in Boston, and Besselievre is probably with the New York Shipbuilding Company.

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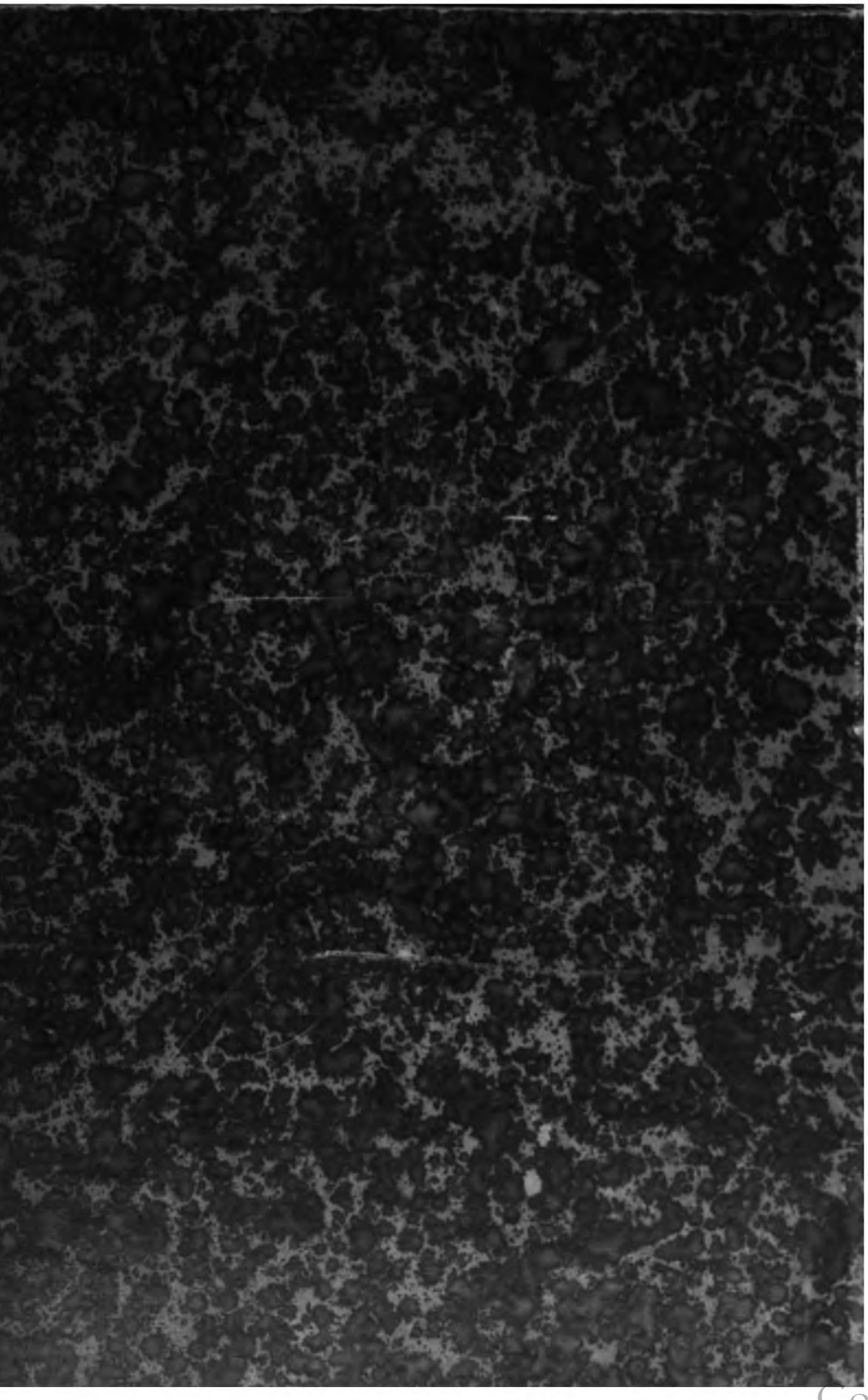

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